# CALIFORNIA LAW ENFORCEMENT TRAINING IN THE 1990's

# A VISION OF EXCELLENCE


*Assembly Concurrent Resolution 58 Study Committee*

*Report to the California Legislature*

*January 1991*

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# ACR 58 STUDY COMMITTEE
# "CALIFORNIA LAW ENFORCEMENT TRAINING IN THE 1990's: A VISION OF EXCELLENCE"

# PREFACE

Service to the public is at the heart of law enforcement's purpose. Peace officers are expected to provide their services in a society which is increasingly concerned about crime and its effects on lives and property. At the same time, certain elements of society behave in increasingly destructive, lawless, and violent ways. Officers represent a tangible line between civilization and chaos. They must provide their services civilly and courteously, as most of the people fortunately hold these higher values. However, officers must also confront violence, criminality, and tragedy, demonstrating the appropriate balance of action and understanding, often in the face of great personal danger and uncertainty.

Peace officers, of course, are citizens who come to the profession with certain personal attributes, but who require training in the necessary skills, knowledge, and principles. It is incumbent on those in positions of policy and responsibility to assure that law enforcement training is as effective as possible both for the benefit of the officers and for the citizens they serve. This study is an effort to recommend improvements to the effectiveness of law enforcement training through use of advanced technology applications and appropriate needed facilities.

Training of California peace officers is now largely conducted using traditional lecture-based classroom instruction. Skills training typically takes place at borrowed and makeshift facilities. Now, the means and opportunity exist to increase the effectiveness of training and training facilities. It is an opportunity which must be taken so that training of officers will match the performance levels expected of them on the job.

Advanced technology, particularly computer and video, has been steadily evolving and is being applied with great success in both the public and private sectors. This advanced technology holds great potential for improving the effectiveness and efficiency of a number of programs and reducing many related costs to law enforcement training.

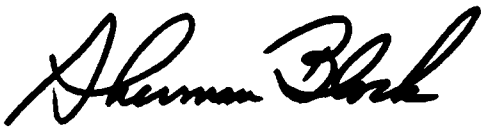
This report was written for, and at the request of, the California State Legislature in response to Assembly Concurrent Resolution 58. It provides the Legislature with information about the current state of law enforcement training and with a vision of what is possible in the immediate future. The report describes the need for appropriate facilities. Advanced technologies which can help meet today's and tomorrow's critical training needs are described in the report in response to the charge of ACR 58.

The California law enforcement community is anxious for the training improvements outlined in this report. Improved training technology and facilities hold promise of knowledge and skills learned more thoroughly and quickly, and with longer retention. The results will be better prepared officers with more time to serve their communities.

Ultimately, this report is about improving law enforcement service by increasing training effectiveness. With over seven million hours of law enforcement training annually in California, even a 1% increase in effectiveness of training would be equal to 70,000 hours saved. The committee expects the real effectiveness to be much higher. These potential savings translate to better trained officers spending relatively more of their time in actually serving the public. This underscores the timeliness of this report and gives greater weight to its recommendations.

Support for the ACR 58 Study Committee's work was provided by the Commission on Peace Officer Standards and Training (POST). The Study Committee wishes to thank the Commission and its staff.

Questions about this study may be directed to POST staff at (916) 739-3864.



SHERIFF SHERMAN BLOCK, Chairman
Assembly Concurrent Resolution 58 Study Committee

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**POST Staff**

Executive Director Norman C. Boehm, Deputy Executive Director Glen Fine, Bureau Chief Darrell L. Stewart, Senior Consultant Kenneth L. Whitman, and Executive Secretary Vera Roff

# SCENARIOS:

# A GLIMPSE AT WHAT THE FUTURE COULD BE LIKE

**The following three pages present officer training situations written from the perspective of the year 2000.**

# TRAINING 2000: A SCENARIO FOR THE FUTURE

*It is June, 2000 and Officer Sam Smith has just graduated from a local basic academy. After completing the 22-week academy in just over 17 weeks, Smith is starting on a field training program. During his basic academy, Smith spent many hours using various computer-based tutorials and interactive video disc courses to develop his skills and enhance his learning.*

*Smith found that instructors served as coaches and mentors, who clarified concepts and principles as needed, and provided additional instructional support upon his request. He was surprised at the time and interest the instructors showed in his personal progress.*

*During basic training, Smith also underwent several days of training at a regional skill-development center, learning and practicing skills such as shooting and driving. He also participated in simulation exercises geared to develop his decision-making and interpersonal skills. He was presented critical situations which may occur only occasionally on the job. Yet, Smith feels he has already "been there" because of the realism of the simulations and exercises.*

*While Smith was at the skill center waiting to practice on the driver training simulator, he called up several portions of the interactive video part-task trainer on driving, and he reviewed some of the requirements that he was having trouble mastering. Once he completed the tutorial, he went to the simulator to actually practice his emergency driving skills.*

*All of this training is recorded on Smith's personal electronic training card, including the hours, subject matter, and testing results. This mass storage data card was presented to Smith at the basic academy graduation ceremony. It will be his responsibility to keep his own training record throughout his career. With it, he can have instant access to his test scores, courses completed, scheduled departmental training, and time lines for completing state- and department-required training and certification.*

• • •

*Officer Jeanne Lopez has been working as a peace officer since January, 2000, and she has just completed her field training. Her entire field training record has been entered on both her personal electronic training card and in the department master computer training file. Officer Lopez has been notified that she must complete a training module on domestic violence incidents.*

*Lopez goes into the training unit, logs onto the department's interactive video computer, and proceeds through the two-hour course. Lopez rapidly completes the pre-test and then pages through the training material and scenarios focusing on the areas where she needs practice. At the conclusion of the course, Lopez completes the post-testing and logs off the computer.*

*Lopez has completed this module in a little over one hour (two hours would have been scheduled for a traditional classroom course). The computer has recorded her responses and training time on both her electronic training card and the master computer department file. She has successfully completed a standardized training module in about half of the normally required time without ever leaving the city.*

• • •

*Deputy John Chung and a selected group of other deputies have been scheduled to view the upcoming satellite broadcast on handling toxic wastes. This program is a legislative mandate and will be a live program produced by POST and broadcast from Sacramento to over 400 downlink satellite reception sites across the State. Chung, joined by deputies and officers from a few small surrounding jurisdictions, views the satellite broadcast live at the sheriff's department. Using his student response keypad, Chung signals the instructor in Sacramento that he has a question, and the instructor then answers that question immediately for all trainees throughout the State to hear.*

*Chung has this training recorded on his electronic training card at the conclusion of the broadcast. The department has also recorded the program on video tape for future training programs and to meet any legal challenges. Several days later, as Deputy Chung is working a patrol beat, he stops and parks his patrol unit for a few minutes and calls up a tutorial on toxic waste on the vehicle computer terminal, and he reviews the key points for handling hazardous materials incidents.*

• • •

*Officer Joan Winn is called to court to testify in a criminal matter, and as she arrives at the courts building, she finds that there will be a delay before she will testify. Officer Winn then goes to the department liaison office, checks out the department's palm computer, and logs on for a short tutorial program on criminal investigation and court testimony.*

*Once she has completed the tutorial and successfully answered some questions on the material, she logs off the computer, and the information about her training is recorded on her electronic training card.*

*Winn is able to complete this one-hour tutorial in just about 25 minutes and correctly answer all the questions. Just as she completes this short tutorial, she is called to testify.*

• • •

*Homicide investigator and instructor John Quincy is preparing to present a training seminar on serial killings to a select group of homicide investigators. His presentation includes videos, still photographs, and animated computer generated visual aids. He programs his presentation into the lectern computer which he will use to project all his material onto the wall-sized screen in the proper order and combination that he chooses. Investigator Quincy has arranged for a networked satellite discussion with specialist investigators from other states. An out-of-state expert on forensic DNA will participate in a portion of the program via satellite link.*

*Those attending the training will be able to ask questions of the guests and instructor. Investigator Quincy will ask questions which the trainees will respond to on their student response keypads.*

*The computer will tabulate the results for both the group and Quincy to review, and Quincy will use this to know which points and principles are understood and which need further review.*

• • •

Far-fetched? Absolutely not! Each of these scenarios, while supposedly occurring in the year 2000, could be accomplished today. The technology is currently available to allow a variety of training to be effectively delivered in both the academy setting and at the law enforcement agency. These types of technology applications allow California law enforcement an opportunity to effectively shape the future -- and do it now.

# EXECUTIVE SUMMARY

**A concise synopsis of the ACR 58 Study with concluding recommendations to the Legislature.**

# EXECUTIVE SUMMARY

The Legislature adopted Assembly Concurrent Resolution 58 (ACR 58) as an expression of concern that California's citizens need the highest achievable level of law enforcement service, and that law enforcement officers deserve the best possible preparation to do their job. Training is the vehicle for preparation for each stage of the officer's professional career. The twin concerns of the Legislature are that adequate training facilities are not now available, and that law enforcement training may be greatly enhanced by the application of technology-based training methods.

The principal charge to the committee established pursuant to ACR 58 was to explore and report on the need for training facilities and the potential applications of advanced technology. That charge guided work of the committee and the preparation of this report.

The ACR 58 Study Committee reviewed written materials, received briefings from staff of the Commission on POST, heard presentations by individuals from private firms involved with education/training technology development and made on-site visits to state-of-the-art facilities. The committee received input directly from the field through a survey from law enforcement executives. In addition, the committee participated in a symposium attended by over 130 law enforcement executives and representatives of the law enforcement training community.

## USING TECHNOLOGY TO HELP TEACH

The committee evaluated many technological applications and found that computer-based training (including interactive video disc programs), distance learning programs using optical fibers and satellites, simulation programs, and expert systems have high potential for improving law enforcement training. The committee believes use of advanced technology provides many advantages over conventional training methods in a number of training applications.

## COMPUTER & VIDEODISC: A POWERFUL TRAINING COMBINATION

Of particular interest to the committee is the potential of computer-based and interactive video disc programs. These programs are a unique instructional medium which links microprocessors and video disc players. This interface provides lesson designers with unparalleled resources for blending still and motion pictures, sound, text, animation, and graphics together for instructional purposes. This technology is proven, reliable, and available today. The Commission on POST has already developed one pilot application and has contracted for an additional program.

The marriage of the computer and the video disc player has resulted in trainees achieving test scores significantly higher than trainees using other learning approaches. And, trainees using the interactive systems spend less time on instruction.

Some of the potential advantages of interactive video systems include:

- more individualized instruction;
- increased student retention;
- standardization of materials;
- greater reliability of instruction;
- shorter training times; and
- improved flexibility on time and location of training presentations.

These systems can be used one-on-one or in classroom settings with groups of trainees. The committee believes that interactive video disc programs may be used very effectively for many cognitive skill-training needs in law enforcement and may easily be integrated into current or future law enforcement training delivery systems.

## DISTANCE LEARNING: CONVENIENT & COST EFFECTIVE

The committee also reviewed the benefits of improving the current training delivery system by satellite delivery of video courses and teleconferences. Satellite delivery is being experimented with now by POST and can be greatly improved and expanded as experience is gained. Delivery of training by satellite offers tremendous potential to provide quality training material and realize cost savings in travel, subsistence, and lodging expenses commonly associated with travel to training sites in traditional classroom-style training courses.

## SIMULATION: PRACTICE WITHOUT RISK

Training simulators have been used by the military and private sector for many years. Simulators can provide the necessary equipment needed to develop hands-on training that would be too dangerous to practice in real-life settings. Simulator programs can be developed or existing programs enhanced for a wide range of training applications including driver training tasks, shooting judgment, and management and leadership decision-making.

## EXPERT SYSTEMS: LEARNING FROM ACCUMULATED EXPERIENCE

The use of expert systems holds much promise for law enforcement training in the future. An expert system can explain, upon request, the reasoning and rule applications used to solve a problem or make a decision. This is more or less the equivalent of having a human instructor or expert think aloud and make a thought process explicit to a learner.

Working expert systems are now operational in a number of professions and occupations nationwide. An expert system is a computer system that has a knowledge base programmed into it, along with a set of rules for using that knowledge base to arrive at solutions to problems.

The committee believes that POST should further research the use of expert systems for law enforcement training.

## ESSENTIAL TRAINING FACILITIES: ADDRESSING STATEWIDE NEEDS

There are many facility needs for law enforcement training statewide. The report addresses facilities and their supporting programs in areas of officer skill development, leadership training, and improving instructor capabilities in use of training technology and advanced learning approaches. Specifically needed are:

- **Skill Development Centers**

  There is need to augment the current network of training facilities with skill development centers and dedicated law enforcement training facilities designed to accommodate the type of training to be presented. The skills required of peace officers are unique. Dedicated facilities should be available to all officers where such skills as emergency vehicle operation, judgment in the use of force, and critical incident response, can be learned and mastered.

- **Advanced Technology Classrooms (ATC) and Studio Classroom (SC)**

  There is a need to design and develop both an advanced technology classroom and a studio classroom where learning hardware, software, and delivery systems are used by trained master instructors. These initial facilities would become the prototypes for future classrooms designed for both on-site and telecourse presentations.

- **Leadership Development/Institute Center**

  There is need for a law enforcement conference facility. This facility should minimally house the following existing programs:

  - Command College
  - Supervisory Leadership Institute
  - Executive and Management Seminars

- **Learning Technology Laboratory**

  There is a need to create a Learning Technology Laboratory for advanced technology development at POST. The laboratory would:

  - Act as a "clearinghouse" for development and evaluation of hardware and software programs;

  - Develop design standards and guidelines for advanced technology classrooms, advanced studio classrooms, skill development centers, and other training facilities;

  - Develop master instructor courses to facilitate the creation and management of the learning process.

## MOVING AHEAD PRUDENTLY TO ACCOMPLISH THE VISION FOR THE DECADE

In reviewing the needs for law enforcement training, the committee realized that some issues are higher priority than others, and that certain types of funding can be arranged more easily than others. The committee identifies several projects that it believes should be undertaken immediately. These immediate projects include prototype advanced technology classrooms, a learning technology laboratory, and the development of computer-based training courseware for the use of local and state law enforcement agencies.

The committee envisions a ten-year time frame to study, design, and implement all needed projects. Implied in the report is an underlying prudence, which suggests proceeding in a consistent, step-by-step manner. Major investment should be supported by development, testing, and evaluation of prototype and demonstration projects. However, this approach should not negate the urgency of moving forward with a plan to address law enforcement training needs in a bold and effective manner. The committee emphasizes that the first steps in this ten-year plan should begin immediately.

## REPORT RECOMMENDATIONS

The ACR 58 Study Committee recommends to the Legislature that a law should be enacted:

1. Declaring a statement of legislative intent to integrate advanced technology into law enforcement training programs and to seek establishment of needed training facilities described in this report.

2. Directing the Commission on POST to establish and staff an organizational unit to provide learning technology and systems development expertise as described in this report.

3. Directing the Commission on POST to begin now with prototypes and demonstration projects consistent with resources available to the Peace Officer Training Fund by appropriating to POST monies available in that fund.

4. Directing the Commission on POST to develop a law enforcement training facilities needs assessment and long-term funding plan and report to the Legislature prior to conclusion of Calendar Year 1993.

5. Exempting the Commission on POST from the provisions of Government Code 11700, et seq., relating to the Office of Information Technology oversight for computer acquisition as it pertains to training applications.

6. Providing the Commission on POST with express authority to use Joint Powers Agreements with other governmental agencies and to commend the use of innovative and entrepreneurial approaches for the purposes of developing and providing law enforcement training programs as appropriate.

# THE STUDY

- Reason, Methodology, Current Systems, and Statewide Needs
- Needed Advanced Technology Training Application as:
  - Computer-based training
  - Video interactive
  - Distance learning
  - Simulations
  - Expert systems
- Training Facilities Needs
  - Skill development facilities
  - Advanced technology
  - Learning technology laboratory
  - Leadership development/institute center
- Future Training System
  - Characteristics
  - Systems approach
  - Evaluation strategies
  - Course development vs course presentation costs
  - Committee vision

# ACR 58 STUDY BACKGROUND

As we approach the 21st century, the legal and social complexities facing peace officers today will likely become ever more acute. These complexities have already created demand for more training, greater assurance of job relatedness of training, and stronger emphasis on precision and correctness in training content. These demands now and in the future will increase the time and costs associated with initial and in-service training and will tax the ability of trainers to assure quality and job relatedness.

With these issues in mind, Assemblyman Robert Campbell authored and introduced Assembly Concurrent Resolution 58, which was passed in 1989. ACR 58, sponsored by the Peace Officers Research Association of California (PORAC), requested the Commission on Peace Officer Standards and Training, in conjunction with the Legislative Analyst, to establish a committee of specified members to conduct a study on the use of advanced technology and facilities for law enforcement training. The committee was charged with providing a report to the Legislature by January 15, 1991 (see Appendix A, ACR 58).

ACR 58 expresses legislative intent that law enforcement officers should be provided training consistent with the level of competence the profession requires, and that law enforcement training must become more effective. To do this, the ACR suggested that advanced technology be examined as a means to help law enforcement address current training deficiencies and future training needs.

The resolution also noted that there was a shortage of adequate training equipment and facilities to meet California law enforcement training needs, and that the present statewide training system was unable to provide the most current techniques, equipment, and facilities due to financial and logistical limitations. The resolution held that there is great public interest in California law enforcement officers being well trained.

Using the most effective techniques, equipment, and facilities can result in conserving training time, improving decision-making, enhancing skill-related abilities, and assuring maximum training effectiveness.

With those observations in mind, the committee was formed and began work in January 1990.

## STUDY METHODS

The committee set out to gather information for this study which would be reliable in formulating objective recommendations. It also wanted to determine the degree of receptiveness the recommendations would enjoy from law enforcement. To do this, the committee took the following steps:

1. **Presentation and Review of Technology**

   The committee researched the many complex issues facing law enforcement to integrate advanced technology applications into the current system of training law enforcement personnel. In addition, the Committee reviewed a variety of technologies applied to training in other professions (see Appendix B, Glossary of terms). Experts in systems approaches and specific applications made presentations before the committee.

2. **Review of Facilities Needed**

   The committee reviewed the type of facilities needed to provide skill development for trainees in the most realistic, hands-on training available.

3. **On-site Visits to Facilities and Technology Locations**

   The committee made several site visits to public and private sector facilities, including projects on the east coast. Numerous applications of readily available and usable technology were reviewed and evaluated for use in California law enforcement training. Many of the applications seen were feasible for California law enforcement training, and included spin-off benefits to training needs of other disciplines.

4. **Survey of Law Enforcement and Training Officials**

   The committee surveyed California law enforcement, using a questionnaire sent to heads of 558 agencies that participate in the POST program. The survey sought their input and consensus on a number of key issues surrounding the use of technology. Heads of 392 departments promptly responded (a 70.2% return rate). The results showed extremely high levels of support for exploration, development, and use of advanced technology. The respondents strongly supported the development of modern facilities and equipment that would benefit and enhance California law enforcement programs (see Appendix C, Survey Questionnaire Results).

5. **Symposium on Training in the Future**

   The committee participated in the "Symposium on the Future of Law Enforcement Training" in San Diego on July 10-12, 1990, as part of the examination of the issues and to solicit input for committee discussions.

   The symposium was attended by over 130 law enforcement chief executives, state agency department heads, law enforcement training presenters, and police organization representatives.

This wide cross-section of law enforcement leaders from across the State listened to presentations, saw technical demonstrations, and discussed and analyzed various issues associated with advanced training technology and skill development facilities. They also discussed funding sources that may be available to implement these types of advancements. The committee actively participated in small-group work discussions on the variety of issues that were discussed over the three-day symposium. Committee members gathered many valuable ideas and recommendations for their consideration. The symposium report is available on request from POST.

6. **Analysis and Recommendations Development**

Perhaps the most important aspect of data gathering was the time spent by the committee to analyze and merge the ideas and opportunities which became evident. The process of developing recommendations for the Legislature was, in itself, an important part of preparing this report.

## CURRENT TRAINING SYSTEM

Law enforcement training in California today is a system principally supported by POST, the community colleges, and law enforcement agencies. POST facilitates training needs assessments, encourages local presenters to develop courses for required subjects, certifies over 1500 courses to more than 160 presenters, monitors course quality, and reimburses local agencies for officer and employee attendance. POST directly oversees a law enforcement Command College and a Supervisory Leadership Institute, and produces satellite broadcasts. This system represents more than seven million training hours annually.

POST has taken responsibility for piloting technological developments in law enforcement training. POST developed an interactive video disc training course for Penal Code 832 required training. The Commission has also contracted for the development of another highly needed interactive video disc courseware for driver training. The POST Commission has also studied the feasibility of state-of-the-art driver training and shooting judgment simulators. Additionally, POST developed a program which distributes video training tapes via satellite broadcast, and pioneered the delivery of live law enforcement teleconference training programs statewide. These efforts have been encouraged by the Legislature with budget support for training research and development projects beginning with fiscal year 1984-85.

## UNDERSTANDING THE CHALLENGES: REALIZING FUTURE POTENTIAL

It is clear that training will have to improve to meet its responsibility in the transformation of civilians into peace officers. The potential for improving the current training delivery system through facilities and the use of advanced technology applications is very high.

> ***"One thing is certain: the information revolution is changing our lives, and we need to prepare ourselves to cope with its promise and potential."***
>
> *Senator Al Gore, Jr.*
> *Tennessee*

However bright the future appears, actual outcomes depend on decisions and actions made in the present, as the current delivery system struggles to provide the increased levels of training needed today. The system will face several general issues in the coming decade:

- Law enforcement training programs have increased substantially over the past decade, and will continue to increase in the coming decade:
- Law enforcement training, because of its complex nature, has a high cost factor, and those costs are continuing to rise each year;
- The current traditional instructional delivery system may not meet future needs or demands on the system;
- Law enforcement training programs must be developed that are more realistic and skill oriented towards hands-on proficiency, and accessible whenever and wherever they are needed.

Over 106,000 sworn and civilian personnel currently work in the law enforcement profession in California. This represents a tremendous statewide training responsibility. In fiscal year 1989-90, POST recorded 115,000 in-service training events (an officer in a training situation). Also in fiscal year 1989-90, 6071 new officers were trained in the POST Basic Course, representing both replacement for turnover and growth in the total number of officers. As the population continues to grow and as concern for personal safety mounts, a continuing increase in the total number of officers seems inevitable.

New officers come from diverse backgrounds and enter the training programs with varying degrees of education, knowledge and skills. The recommendations of this report will help meet the challenges of training in a profound and effective manner. Not implementing these

recommendations will severely limit the capacity to field well prepared officers in the future.

## STATEWIDE TRAINING NEEDS

The problems of providing better prepared officers and reducing the number of injuries and deaths to citizens and officers can be dramatically impacted by improved training techniques. The officers themselves realize this. In the POST Field Survey of Current Training Activities (April 1986), the most prevalent suggestions for improvements in training were that courses "include more 'hands-on', realistic, practical instruction -- including role playing and field problems -- and be more relevant to the officer's job." These were the most predominant suggestions from officers, as well as from the supervisory and management ranks.

Managers and trainers have realized the need for better facilities and advanced techniques in training. They realize that personnel must master specialized skills and rehearse judgments of handling critical situations prior to them being encountered in actual incidents.

From a statewide perspective, the following problems and needs have been identified:

### Technology Gap

The training delivery methods of law enforcement have been generally consistent for many decades, using primarily classroom instruction with limited practical application of learned skills and knowledge. Training techniques have been developed to improve effectiveness over this delivery method. These techniques have been used in other professional training and academic institutes. Law enforcement has not kept pace with these technological advancements.

Law enforcement has not been able to afford the development of such application training facilities or equipment and, hence, is suffering from an ever-expanding technology gap in training delivery methods.

### Learning Time

A critical factor to law enforcement administrators is the amount of time required to properly train or re-train personnel. The longer an officer is in training, the less time he/she is spending on primary law enforcement duties. Some of the training delivery methods discussed in this report not only increase retention and confidence of learned skills and knowledge, but reduce the learning time as well.

One of the problems with classroom instruction is that the instructor must teach at the pace of the slow learners, with the intent of imparting the same knowledge to all students. Without the availability of alternative technology applications that will allow students to learn at

their own pace, there cannot be a corresponding reduction in the overall learning time of most students.

**"Hands-on" and Role-playing Training**

Generally speaking, classroom instruction using visual aids and hand-out materials will result in 50% of the instructional content being retained by the students. If trainees can then personally experience and practice realistic applications of the learned skills or knowledge, the retention rate has the potential to jump to 90%. Research on applied learning theory conducted at the Naval Pilot Training Center shows that adults retain:

16% of what they ***read,***
20% of what they ***see,***
30% of what they ***hear,***
50% of what they ***read, see and hear,***
70% of what they ***read, see, hear and personally experience,***
90% of what they ***read, see, hear, personally experience and practice.***

These percentages only hold true, however, if the conditions are ideal for learning. For example, if a learner is not being attentive to what he/she reads, sees and hears, the learner will not retain 50% of the material. Also, if the conditions for the learner's personal experience and practice of a skill are not realistic, then he/she will not retain 70% or 90%. In the case of driver training, for example, an officer will personally experience the basic driving skills behind the wheel of a specially equipped driver training vehicle. He/she will gain additional comprehension of those skills and their application, but not the 70% of what is ideally to be learned about police vehicle operations, especially under emergency driving conditions.

The experience on a "safe" driver training course will only teach the officer skill manipulations. The officer will not learn these skill applications under unrealistic training experiences. This is why simulation systems are used for commercial pilots and various military types of training. Realistic simulation provides ideal conditions for gaining that 90% retention and the self-confidence in abilities to perform specific skills crucial to becoming a competent peace officer. These types of training need to be increased to help all officers statewide achieve the necessary levels of training needed to become proficient in their job.

**Liability Issues**

A civil court has not found a trainer or management negligent, if due to a lack of funds, they have not implemented the latest innovations in training technology to provide greater readiness and competency for

their officers. That will most surely change in the future, because the responsibilities of law enforcement require that all reasonable efforts be made to provide the highest level of officer competency available. If there are training methods that can improve the safety to officers and the public and those methods can feasibly be provided to all officers throughout California, then trainers, managers, and elected officials should do everything within their powers to make such training available. We train our officers to perform competently in delivering services to their communities. All officers deserve to be adequately prepared to handle their duties. If some officers are not fully prepared due to lack of available high-quality training, then liability issues are exposed and both the public and the officers are put in unnecessary jeopardy.

**Availability of Skill Development Facilities**

Military studies reveal that readiness to respond properly during critical incidents is improved when personnel have access to, and occasional use of, realistic practical application training techniques. For this reason, the various branches of service put their simulation training facilities and equipment in areas near personnel actually performing their duties whenever possible.

For law enforcement, the development and use of realistic role-playing facilities and advanced equipment and technology for simulated training have become available to only a select few statewide. Law enforcement training organizations traditionally operate and fund their training facilities independently. Only a few training centers share staffing and instructor responsibilities. Because of the independent funding tradition, improvements and even maintenance of facilities and equipment has suffered, and what does exist is unevenly spread.

To provide the needed skill development training (driver training, firearms, tactical exercises, etc.), local agencies and colleges borrow the use of various types of often makeshift facilities. This limits the effectiveness of the training because the courses and activities must be designed around the borrowed site's design. Many presenters are being faced with the prospects of losing access to even these less-than-desirable training sites.

**Expense of Facilities and Equipment**

The major reason why needed training facilities, equipment, and technologies are not available around the state is the high cost of their initial construction, purchase, and development. For example, safe weapons ranges, driver training basic skills courses, and simulated business and residential buildings each require the expenditure of

hundreds of thousands of dollars. Consequently, most law enforcement trainers, with their independent budgets, cannot afford all of the needed sites or equipment. About 80% of California law enforcement departments have fewer than 50 sworn officers. This reflects the size of the cities and counties they serve. Individually, none could achieve an economy of scale necessary to build the needed facilities, but collectively, they represent an urgent need for facilities. Funding sources and support must be derived from either state or regional sources.

**Availability of New Technology**

Many of the technology applications and programs needed to effectively develop these skill facilities are fairly new, and are only now becoming available for wide-spread use in law enforcement training programs and facilities. The use of these advanced technology applications and programs will provide a new opportunity for law enforcement.

In the areas of weapons training, tactical skills, and critical specialized skills, methods for providing realistic simulated experiences of their application have been sporadically developed at a few sites. These simulated role-playing techniques have demonstrated great effectiveness in more adequately providing refinement of the skills and confidence in the officers' abilities to properly respond to critical situations on the job.

In some areas of skill and judgment development, trainers have realized the need for improvements, but have been unable to satisfy them due to the developmental costs of the technology required and the high cost of presentation. Even though the technologies exist and are readily available today, they are not available on a statewide basis to all officers.

Even though there has been some progress in facility development and training over the past twenty years, there are still areas that need additional improvements. The classroom requires some special focus and attention since it will likely remain the primary training environment for several decades. The committee has identified the following specific needs:

- Properly designed and equipped classrooms that create learning environments for trainees;
- Strong infusion of computer-based training and interactive video disc courseware for individualized, small-group learning;
- Courseware development and support facilities;
- Facilities to conduct various specialized kinds of training; i.e., driving, firearms, SWAT, criminal investigation, dispatcher training;

- Dedicated conference center (meeting and training) facilities; to include advanced technology classrooms, advanced studio classrooms, and teleconference facilities.

- Model facilities for training instructors and evaluating new curricula.

**The ACR 58 Study Committee concludes that the necessary actions to address the current and future law enforcement training and facilities issues will not be easy. However, the current training delivery system can and should be enhanced to provide levels of effectiveness in training not now achieved.**

# ADVANCED TECHNOLOGY TRAINING APPLICATIONS

The committee evaluated many technology applications and concluded that the following hold great promise for immediate integration or increased usage in law enforcement training programs:

- Computer-based training programs
- Interactive video disc courseware programs
- Distance learning programs
- Simulation programs
- Expert systems

> ***"Over 20 years of research shows that computer-based instruction produces at least 30% more learning in 40% less time at 30% less cost -- and that is only a long-term average, not the 'state-of-the-art'."***
>
> *Lewis J. Perelman*
> *Hudson Institute Project*
> *Learning 2001*

These powerful technologies are described below. They bring carefully designed and prepared courseware right to the department and individual. Clear-cut efficiencies, standardization, and lower delivery costs have made implementation of these technologies sensible. The integration of these types of technology applications and increased usage may provide higher-quality training programs for more trainees at a lower overall cost.

## COMPUTER-BASED TRAINING

The potential of computer-based training (CBT) is clear. No other media or approach (including one-teacher/one-student models) offers equivalent opportunities for individualization on pace, content, sequence, and difficulty. No other approach offers the opportunities for providing trials with feedback, item- or response-specific help, simulations of complex problems, or techniques and management control as CBT.

CBT refers simply to the use of computers in managing and presenting lessons to trainees. Trainees receive individualized and self-paced instruction.

Trainees choose when and where in the text to begin and end lessons, depending on what they plan to learn and what they have already accomplished. Trainees may pursue specific interests and applications in their preferred mode of instruction, whether graphic, audio, video, or verbal. CBT involves interaction between the trainee and the computer in which the trainee responds to instruction delivered by the computer.

Some common modes of CBT include tutorials where the computer acts as a tutor and instructs the trainee; drill and practice where the trainee answers a sequence of questions; and simulation where the trainee is allowed to practice skills modeling.

This flexibility is a major feature of CBT's management capability. By diagnosing each trainee's responses, it can choose and follow the most effective instructional strategy for each trainee, and cure deficient skills and knowledge. Computer feedback -- the result of vast amounts of data and variables -- is immediate and exact, while instructors' responses are often subjective and not timely.

CBT responds to a variety of training needs by allowing:

- large numbers of geographically dispersed trainees to receive standardized instruction;
- individualized training programs;
- training in cognitive and technical subjects;
- self-paced learning;
- instantaneous remedial and tutorial training.

The benefits in using a CBT program are time, cost, and energy savings. A system can quickly update courses from a central location, store as well as process huge amounts of information, and improve training evaluation. It can potentially reduce overall training costs by:

- eliminating travel to distant places for training;
- being more effective for retention of material;
- requiring fewer training hours to master material;
- affording greater accessibility to needed subject matter;
- using pre- and post-testing to assure teaching materials the trainees do not already know.

Today, major businesses such as IBM, General Motors, Chrysler Corporation, and Ford Motor Company use CBT to enhance learning. IBM provides more than 30 percent of their education courses in self-study format at learning centers, in their marketing and service branch locations, and at manufacturing and development locations. In the very near future, more and more self-study courses will be delivered on the personal computer right at the trainee's workstation or learning station.

Self-study delivery media are as diverse as the messages delivered. They range from textbooks, audio cassettes, and tutored videotapes to interactive video disc training incorporating sophisticated, high-resolution graphics, video animation, audio soundtracks, and touch-screen operation. Often these training materials are made available to the trainee in combination, such as workbooks with an interactive video disc program.

Individual learning with CBT provides the benefits of convenience, since trainees can take courses when and where they want and can proceed at their own pace. It increases student productivity by eliminating travel time to and from class, and it is cost efficient, since travel and living expenses are eliminated and administrative expenses are reduced.

> ***"Basing educational strategies on student's specific needs and learning styles - that is always right."***
>
> *Bernard R. Gifford*
> *Vice President Education*
> *Apple Computer*

Self-contained training module programs use up-to-date teaching methods, including graphics and simulation. Students progress at their own pace, skipping or repeating sections as they see fit, and throughout the process, the computer system tracks progress and tells trainees which section should be studied next. CBT programs encourage a high degree of student interaction providing hands-on training that keeps participants involved and interested.

The following critical characteristics of computer-based training should be incorporated into any plan developed for use of technology. The training should be:

DISTRIBUTED - To take place when and where needed

MODULAR - To focus on a single skill or knowledge

MULTISENSORY - To stimulate multiple senses of the trainee in a variety of ways

INTERACTIVE - To require responses from trainee at key points

NON-LINEAR - To not limit the trainee by having fixed sequence or modules

RESPONSIVE - To have short development cycles and be current

ON-DEMAND - To be self-directed with learning under the control of the trainee

These characteristics will help future system designers focus on important concepts during development stages when decisions are being made regarding which advanced technologies and delivery methods to use.

In the period since 1985, market forces have been in play which have been the catalyst for powerful and sophisticated hardware and software. At the same time, the prices of both have tumbled dramatically. A dollar today will buy many times the computing power that it could purchase only two or three years ago. It is expected that this downward cost trend will continue on into the future.

**The ACR 58 Study Committee concludes that law enforcement training courses can be delivered effectively by integrating the use of CBT programs into the overall POST training program.**

## INTERACTIVE VIDEO DISC COURSEWARE DEVELOPMENT

Interactive video disc (IVD), which is an advanced form of computer-based training, is a unique instructional medium which links computer responding and evaluating devices with a video disc player. This interface provides lesson designers with unparalleled resources for blending still and motion pictures, sound, text, animation, and graphics for instructional purposes. By controlling the video disc player with an external computer, sophisticated instructional strategies can be applied to law enforcement training.

Interactive programs build decision-making and problem-solving skills, giving the trainees control to choose what they need to learn and skip over what they already know. Interactive video programs can provide higher visual levels not achieved with the lower-level CBT programs. In addition, they also provide the ability to:

- train people in a reduced period of time;
- teach skills concepts and principles, and help trainees practice them;
- show desired behaviors in various scenarios, a valuable medium for behavior modeling;
- train groups as well as individuals;
- free the instructor to provide individual coaching.

The IVD technology has been applied to training in a variety of professions and trades. The American Heart Association uses a mannequin in an IVD program to teach cardiopulmonary resuscitation. As trainees practice, the

video "instructor" gives them directions regarding technique and accuracy. Airline pilots hone decision-making skills by using IVD programs of emergencies, choosing a course of action through a computer program and then analyzing outcomes of their decisions. The Commission on POST has developed the P.C. 832 "Introduction to Law Enforcement" interactive course, and has contracted for the development of a comprehensive driver training interactive video disc course.

Trainees who use these types of interactive systems are achieving scores which are significantly higher than learners using other approaches...although they spend less time in instruction.

Recent studies at IBM showed that learners reduced training time by 25% and increased retention of the material by 60 percent using the computer/video medium. It was judged a more effective training tool because its simulation feature challenged learners' problem-solving skills.

One of the interactive video disc's chief advantages is its random access capability of locating any section of the program within fractions of a second. This enables trainees to control the order of the video segments on their monitors. They answer questions posed by the computer program, and as part of the computer's "branching" feature, are directed to other parts of the training on the basis of their responses. Correct answers take them to the next segment, and incorrect ones take them back to original lessons or remedial lessons.

Trainees also have the freedom to organize sections of the material that best suit their needs. Trainees can learn at their own pace and can receive a variety of directions from the computer ranging, from drill and practice to contacting the instructor or facilitator for further assistance.

**The ACR 58 Study Committee finds there is compelling evidence that interactive video disc programs are an effective means of meeting many cognitive skills training needs in law enforcement training and can easily be integrated into the current law enforcement training delivery system.**

## DISTANCE LEARNING PROGRAMS

> *Sheriff's Deputy Ronald Fuller is assigned to a resident post in a Northern California county. He, along with every other peace officer in the State, is scheduled to receive a state-mandated training course. Deputy Fuller will go to the sheriff's substation and turn on the satellite receiver to view and tape the POST broadcast coming from a studio in San Diego. The two-hour presentation will complete the requirements of the mandated training course.*

*Deputy Fuller is able to receive the same information from the group of master instructors presenting the satellite broadcast as if he were present in a far-away classroom. The viewing of this mandated training program via satellite may save many hours of travel and costs associated with having Deputy Fuller leave the county to attend the training in a classroom at some distant location.*

Distance learning programs range from plain audio "telepresentations" to complex videoconferences. They include any telecommunication of instructional audio or audio/video material by satellite, microwave, or wire/cable/optical fibers. More efficient transmission of sound, text, and images is expected as use of fiber optics becomes even more widespread.

Satellite technology has revolutionized television delivery of instructional materials, and it has also facilitated distribution and previewing of instructional programming. Satellite broadcasts transmit programming directly to an individual receiving site. Today it is most common to deliver programs via satellite feed by "uplinking" the program to the satellite from a ground station, and then "downlinking" the program to any location equipped with the proper reception dishes. Satellite transmission of training material is readily available and is currently being used in law enforcement training in many states.

POST has been using satellite transmission of training material in two distinct formats. One program broadcasts individual video training tapes to the satellite receive sites. The program is received at the site for either live viewing of the tapes, or taping the broadcast for later viewing at training sessions. POST has also broadcast a series of live interactive telecourse programs dealing with mandated training requirements and legal updates. These telecourses feature one-way video and two-way audio, allowing for questions to be immediately answered for participants. These programs can also be taped for later viewing.

In addition to the POST satellite broadcasts, there are daily broadcasts produced by a private company, Law Enforcement Television Network, monthly broadcasts by the Federal Emergency Management Agency, and bi-monthly broadcasts by the Federal Bureau of Investigation and the Kansas City, Missouri Police Department.

These satellite programs are broadcast nationwide, and can be easily received live or taped for later broadcasts by agencies or training institutions with downlinking capabilities.

An additional form of interactive distance learning is the telecourse program. It can be broadcast with both one-way video and two-way audio, or in more sophisticated applications, using two-way audio and two-way video for a true teleconference-style program, and is generally broadcast

over cable or satellite. This type of delivery system has tremendous potential to effectively deliver quality training material and realize effective costs savings in the travel, subsistence, and lodging expenses commonly associated with moving trainees to a training site in a traditional classroom style training course.

Telecoursing can effectively send standardized, quality training statewide. The broadcasts produced by POST can be received at any properly equipped site. Those sites can be colleges, local cable broadcasting company studios, and individual agencies or departments. Additional satellites are scheduled for launching in 1992 and 1993, substantially increasing the availability of satellite transmission time.

The use of video conference systems is another important telecommunications tool that will enable law enforcement to have face-to-face training or conferences without leaving central locations. Advanced video compression technology and low-cost digital line services currently available through public utilities help to make this a state-of-the art medium that could provide a very practical training vehicle. The systems that are available today are compact self-contained systems that include audio equipment, video monitor, cameras, and necessary coded transmission equipment to provide a two-camera composite image for a realistic view with visual and audio clarity.

These technological applications are currently available, and with future enhancements, are easily integrated into the current training delivery system.

**The ACR 58 Study Committee concludes that the use of satellite communications and video conferencing can be very efficient tools for the more cost effective delivery of law enforcement training programs.**

## SIMULATION

*With his siren screaming and adrenalin pumping, Officer Barry Sims stares intently out the windshield of his police vehicle. The robbery suspect's vehicle was still trying to evade him and was now driving across a dirt field behind a row of apartment buildings at a high rate of speed. The pursuit has been going on for about 10 minutes and has covered several miles through business and residential areas. The pursuit is being closely monitored by a supervisor, Sgt. Steve Lawrence.*

*Officer Sims trips his microphone again and advises Officer Casey Hardy that the driver has thrown something from the vehicle as it drove eastbound in the dirt field toward the*

*apartment houses. Officer Hardy is several blocks behind the lead police unit driven by Sims, and he can barely hear what Sims was saying over the yelp of his siren. Officer Hardy decides to continue westbound along a parallel street trying to intercept Sims and the suspect vehicle.*

*Suddenly, Officer Hardy sees the vehicle in front of him start to make a "U" turn across his path. Officer Hardy slams on the brakes to the police unit, and he successfully maneuvers around the vehicle and continues towards the location where Officer Sims has successfully stopped the robbery suspect. Officer Hardy stops his police vehicle behind Officer Sims's vehicle, and the lights inside the simulator come on to indicate the training scenario is over.*

This entire scenario has been completed inside a driving judgment training simulator. Officers Sims and Hardy were operating real vehicles inside training simulators. Sgt. Lawrence, the simulator instructor, was controlling the scenario simulation from a control panel. Sgt. Lawrence is able to critique the simulation results with both Sims and Hardy immediately, based upon the computer-generated analysis of the actions of both officers as they drove their police vehicles through the assigned scenario program. Full motion simulators of this type are not now available, but the technology needed to develop them is coming on line.

The use of simulation systems in law enforcement training can be extremely valuable to help the trainee approach a situational problem in as realistic a role as possible. Simulators have been used by the military and private sector for many years in training their personnel to perform in a hands-on capacity. There are simulators for the operation of tanks, submarines, and airplanes, allowing training that needs to be accomplished without risking millions of dollars of equipment or risking lives in the training process.

POST has been instrumental in stimulating commercial interest in developing a state-of-the-art driver training simulator which could be used to train officers for hazardous emergency vehicle operations, while not exposing them to a potential accident or injury if they were actually operating a vehicle at high speed on a congested city street. At this time full-motion driver training simulator hardware is very sophisticated and costly to develop. A less complex set of part-task simulators is currently being studied.

Additionally, POST has encouraged the development of a shooting judgment simulator that allows the trainee exposure to a potential lethal situation, and then make decisions on how to handle that particular situation. If those decisions require the use of deadly force, the trainee can respond to the threat with an appropriate level of force, and fire a laser weapon that

is tracked and scored by a computer. Technology also exists to have the suspect on the video image fire a laser back at the trainee.

The military has successfully used simulators to help trainees make proper decisions about management of troops, actual battlefield decisions, and warfare without ever leaving a chair within a simulator complex.

Simulators, especially those that can be used with computerized expert systems now being developed and perfected, can provide the necessary equipment needed to develop hands-on training that would be too dangerous to practice in a real-life setting. Simulation programs can be developed and existing simulators enhanced for a wide range of training applications including:

- Driver training (including pursuit and emergency response)
- Shooting judgment situations (as part of a total weapons and uses of force training program);
- Management of critical incident situations dealing with a variety of issues such as: terrorism, civil disturbances, hostage incidents, major disasters involving fires and plane crashes, drug enforcement issues, etc.;
- Management and leadership decision-making problems.

**The ACR 58 Study Committee concludes that POST should develop prototype simulator systems in driver training, shooting, decision-making exercises, and critical incident management to reduce potentially life threatening confrontations and major liability issues facing law enforcement today.**

## EXPERT SYSTEMS

*In a large metropolitan area, a police investigator enters into a computer approximately 25 items of investigative information about a commercial burglary that had been committed the night before. Once the investigative leads are in the computer, an "expert burglary system" compares the modus operandi (m.o.) of this burglary with the known m.o.'s of suspects currently known to be active in the area. Within a few seconds, the computer produces a list of 10 suspects listed in order of probability. By the end of the shift, the suspect listed first has been found with stolen property in his possession and is arrested.*

This is exactly what the Baltimore County, Maryland Police Department did in developing its burglary system. The rules in their system were developed from the expertise and accumulated knowledge of its burglary detectives. In addition to solving burglaries and identifying suspects, a system such as this, with some slight modifications, can be used to train detectives in the

investigation of burglaries. In fact, many other training situations lend themselves to automation with an expert system.

Expert systems hold much promise for law enforcement training in the future. Expert systems will provide tools that will allow the development of more powerful, effective, and adaptive instructional prototype designs. Even now expert systems are used in the solving of selected criminal investigations. These same systems can effectively be used in the training environment.

Knowledge-based programs are capable of much more than answering questions. An expert system may be combined with interactive graphics for video and audio models and simulations. With the right software, an expert system can explain (upon request) the reasoning and rule applications it used to solve a problem or make a decision. This is more or less the equivalent of having a human instructor think aloud and make a thought process explicit to a learner.

More complex expert systems serve as resident "intelligent tutors." They may examine learners' responses and create a model of their learning style. They may access the degree to which a learner has mastered the subject being taught, flagging specific gaps in knowledge.

The use of expert systems can help shift the focus of job-related training in the direction that law enforcement training needs to take: away from the traditional system of "what do you want trainees to know?" and towards the new direction of "what do you want trainees to be able to do?"

Today in the business community, expert systems are used to do many tasks -- to search for mineral sites, to design computer systems, to navigate aircraft, to land the space shuttle and to drill for oil. It is estimated that there are some 3,000 expert systems in use today.

The DuPont Company is a leading user of expert systems, and currently has some 2,000 programs operational or in various stages of development. The estimated savings in manufacturing processes per year for each expert system has been estimated at $100,000. Expert systems have the potential to bring much greater productivity to law enforcement training in a variety of areas, and to have the same potential savings in time and money.

**The ACR 58 Study Committee concludes that POST should further research and pilot test the use of expert systems in law enforcement training.**

# TRAINING FACILITIES

The training facilities needs of law enforcement fall into four different categories, each with unique components. The four types of facility needs that were reviewed are:

- Skill development facilities
- Advanced technology classroom
- Leadership development/institute center
- Learning technology laboratory

## SKILL DEVELOPMENT FACILITIES

The nature of law enforcement imposes unique demands on officers for appropriate performance in life-threatening situations. These demands have created special training needs to prepare officers for the performance of these duties.

Peace officers are required to use vehicles and weapons in ways that are vastly different from citizens. Peace officers must always be prepared to use their weapons in life-threatening situations. They must be prepared to drive their vehicles skillfully and safely under trying emergency conditions. These skills must be performed flawlessly from the first time that the peace officer is called upon to perform them in the line of duty.

There is a crucial shortage of available skill development facilities for the training of law enforcement personnel in California. There are only a few committed skill facilities that are available for use by various agencies, and there are none of the type needed to meet law enforcement training needs statewide. Vehicle operations training is an example of a critical law enforcement need. Virtually all such local training is now done at inadequate, borrowed parking lots and abandoned air strips. Urbanization is making even these facilities less available.

The skill development facilities need to be designed to provide high-quality, specialized training areas and equipment at sites strategically located throughout the State for use by law enforcement training agencies and colleges. The skill centers can complement the already existing training programs, activities, and facilities. They should be designed to raise the effectiveness, standardization, and efficiency of skill development of trainees.

The skill development facilities should include the following types of training activities:

- Weapons training complex -- includes combat ranges, shooting judgment simulators, and tactical role playing villages;

- Driver training complex -- includes skill development courses, part-task simulator equipment, motorcycle training facilities;

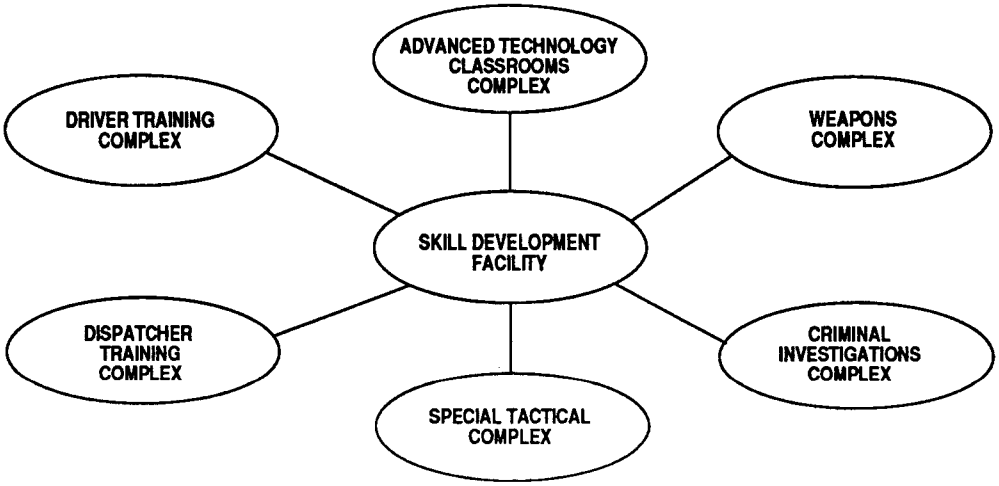
- Special tactical complex -- includes facilities for SWAT training, hazardous incident training; explosive ordnance disposal, hazardous materials incidents;

- Investigations complex -- includes criminal/vice and forensic crime scene investigation facilities;

- Dispatcher training complex -- includes full-scale dispatch center working with other tactical training;

- Other specialized needs complex -- any training that cannot be done in traditional college-style classroom or around a college facility where other students are congregated.

**SKILL DEVELOPMENT FACILITY**



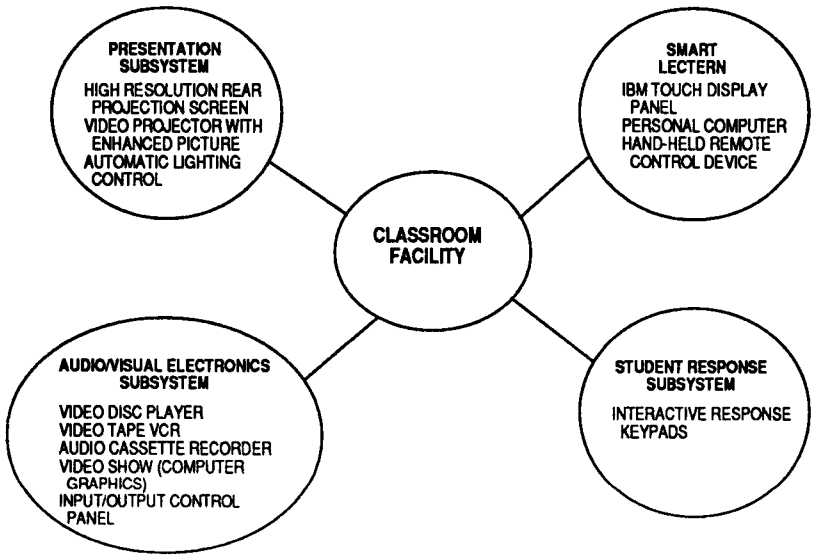

The current shortage of sufficient skill development sites located in California has constrained law enforcement's ability to properly train officers at the academy level and in-service level. There is a compelling need for the availability of skill training facilities in sufficient numbers to serve all areas of the State.

**The ACR 58 Study Committee concludes that additional study is necessary to fully design, develop and implement these skill development facilities. A complete needs analysis of all phases of this concept will provide POST with the necessary information needed to develop or produce specific plans for implementation and funding of these facilities. Such a study will take two years. Once this study is complete, recommendations can be made to the Legislature.**

## ADVANCED TECHNOLOGY CLASSROOM

The Advanced Technology Classroom (ATC) designed by IBM is a computer-based training delivery system. It provides the instructor with an easy-to-use facility for presenting text, drawings, computer animation, and video images on a large, rear-projection screen.

**ADVANCED TECHNOLOGY CLASSROOM (IBM)**




The ATC also permits feedback from students, in response to displayed questions, through individual keypads located at their desks.

Great importance must be given to classroom ergonomics and environment, including room dimensions, air conditioning, background noise, sight distances, colors, configurations of desks to lectern and screens, and student comfort. Factors addressing environment are more conducive learning process.

The components of this system are interconnected so that the instructor in the classroom need never operate any individual device once the media, such as video tape or video disc or computer diskette, have been installed into the computer at the beginning of the class presentation. Each device is controlled by the personal computer which, in turn, receives signals from the instructor's remote or lectern-mounted control device.

The instructor runs a class by advancing through the sequence (though random access is also possible) of previously planned audio, visual, and student-response events. A display panel embedded in the lectern surface provides prompting notes and a view of the planned sequence, both of which change as the presentation progresses.

In the classroom environment, ATC offers trainees a means to actively participate in the learning process. Electronic keypads, called "student response units," at students' desks allow them to respond to questions anonymously. Using feedback data generated by students, the ATC system tabulates and displays all responses, and compares those of the current class to previous classes.

IBM research indicates that the ATC concept substantially reduces classroom time and improves learning of subject matter by up to 40 percent.

> ***"To ignore the promise of harnessing technology to the classroom would be irresponsible."***
>
> *Paul A. Alaire*
> *President and Chief Executive Officer*
> *Xerox Corporation*

The ATC concept has been shown to increase classroom productivity because it requires better preparation, increases instructor/student interactivity, enhances instructional consistency, stimulates the learning process, and improves retention of the training material. It also provides a seamless presentation using high-quality audio/visual displays. It combines the interaction between the student and teacher with sound, instructional design and productive use of technology. Students are quizzed at least every 15 minutes, and respond by indicating their answers on the student response unit. This feedback helps the instructor decide what has been learned and what materials need further review and explanation.

IBM recently compared a training module containing 130 teaching points, designed and delivered for the advanced technology classroom as well as the conventional classroom. IBM found that students in the conventional course retained 68 percent of the teaching points, while those exposed to the advanced technology version retained 83 percent. IBM is currently hoping to reach 90 percent retention in their advanced technology versions

as their goal. Limited studies with IBM instructors and students show that they prefer the advanced technology classroom concept.

Interactive technology using student-response units offers a whole new dimension for improving the effectiveness of learning in the classroom environment. Anonymity permits trainees, who might otherwise be reluctant to raise their hand, to make inquiries or answer questions in a non-embarrassing way. Technology-based student response units can signfificantly improve the effectiveness and efficiency of learning in the classroom. The proper application of student response units can yield substantial increases in student retention and learning gain. Goals using such units include:

- Participation -- to increase and evenly distribute student participation in learning activities;
- Communication -- to increase the productive communication among students and between students and instructors;
- Commitment -- to encourage a commitment from each student to participate by answering each question to the best of their ability;
- Data System -- provide valuable data for analysis of student responses.

Electronically indicated responses then set the class on an easier path to intense discussion and debate where indicated.

**The ACR 58 Study Committee concludes that there is a definite need for developing and pilot testing an advanced technology classroom prototype.**

## ADVANCED BROADCAST STUDIO AND RECEIVING CLASSROOMS

Electronic transmission of training presentations is another form of educational technology that may transform the shape and reach of law enforcement training in the future. An electronic network transmits multimedia programs to classrooms in the same training complex or across the state and nation by satellite, microwave, or wire.

For example, satellite delivery provides a one-way video, two-way audio interactive system that allows an instructor in a studio to broadcast course material to trainees in remote classrooms. Instructors can talk to trainees

in any classroom on the system. A broad array of teaching tools, including personal computers, electronic chalkboards, slides, film, video scenes, and graphics are available to keep the lessons challenging.

Electronic receiving classrooms are small to enhance learning. They are usually equipped with two video monitors; one featuring the instructor and the other displaying graphics, text, and/or illustrations.

A student response keypad equipped with a microphone allows the trainee to both talk to the instructor and select answers to questions posed on multiple choice quizzes. Trainers using this instruction system say that it is better than traditional classroom training, as it provides more flexibility to deliver sophisticated presentations to large numbers of trainees who are clustered in small groups.

The use of an advanced broadcast studio and receiving classroom or multiple classrooms can allow one instructor to deliver standardized instruction to several classrooms at the same time and allow for immediate feedback and answering of the questions. The studio classroom can also receive satellite broadcast material from other locations, either locally or from across the state, nation, or around the globe in distant countries.

**The ACR 58 Study Committee also concludes that there is a need for developing and pilot testing an Advanced Broadcast Studio and Receiving Classroom prototype.**

**LEADERSHIP DEVELOPMENT/INSTITUTE CENTER**

Currently, POST and law enforcement hold training sessions and meetings in a variety of places. These sessions are usually held at or near college or training facilities, or in hotel conference centers.

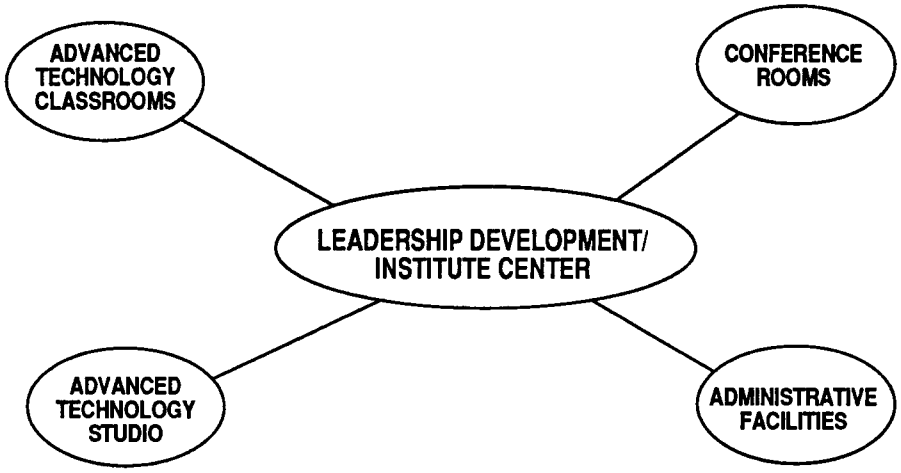
The costs associated with these facilities are rising sharply, and in many instances, the facilities simply are not conducive to holding meetings or training peace officers because of outside distractions. Also, facilities are most often simply rooms without the design features needed for optimum training. Locating consistently available quality facilities at a reasonable price, and that are easily accessible for trainees from throughout the State is becoming an impossibility.

The development of a law enforcement center that would serve as a conference, training, and technical support facility is crucial. Management and supervisory training, master instructor development courses, and a host of other sessions could be held in this type of facility. There is a definite need to develop a proper atmosphere for many of the management, leadership, and special seminars. There simply are very few facilities available to law enforcement statewide to provide space for trainees on this basis.

The development of a leadership development/institute center needs to include the building of advanced technology classrooms and an advanced

studio center, capable of both delivering and receiving training material either by satellite or fiber optic cable. This advanced studio can broadcast training materials directly into any of the conference or advanced technology classrooms, using a broad array of teaching tools such as personal computers, electronic chalkboards and video graphics. The advanced technology classrooms can serve as platforms for proper instructor development needed to support the use of technology.

## LEADERSHIP DEVELOPMENT/INSTITUTE CENTER




Due to the increasing number of high-level training sessions and meetings that are expected as we proceed into the next decade, there can be a significant cost savings in implementing this type of leadership development/institute center.

**The ACR 58 Study Committee advocates the concept of a leadership development/institute center and recommends the development of one prototype facility and then evaluating this facility to determine the feasibility of establishing additional centers in the future.**

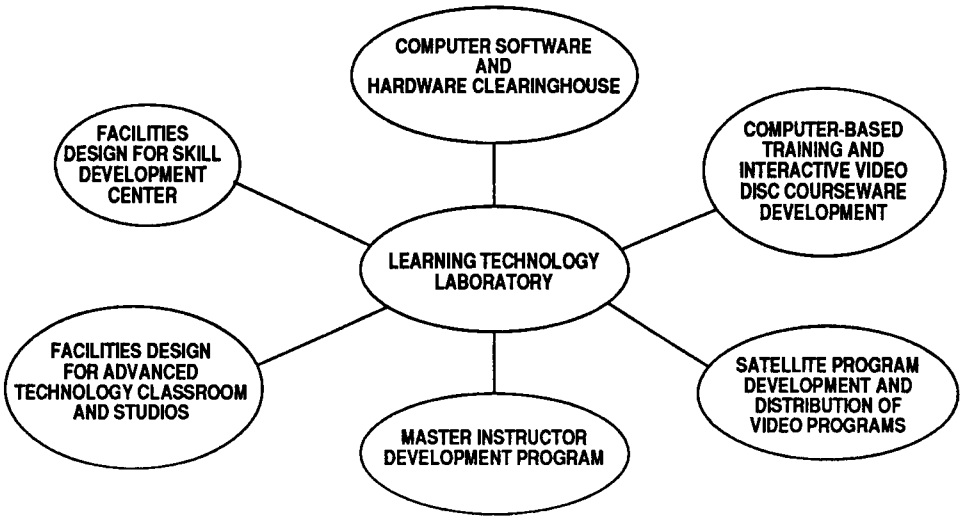
## LEARNING TECHNOLOGY LABORATORY

Implementation of higher learning effectiveness will require expertise at POST to serve as a resource for departments and training presenters. Technology needs to be adapted and instructors need to be developed. A resource or resident expertise is needed to provide the technical and

practical know-how associated with constantly improving training effectiveness.

The creation of a laboratory for advanced technology development would serve as the POST "clearinghouse" for the development and evaluation of hardware and software needed to support advanced technology usage in law enforcement training. The laboratory's staff would also provide design support for an advanced technology classroom and advanced technology studio, and develop design standards and guidelines on future classrooms needed for law enforcement training. The laboratory would also develop design standards and guidelines for the skill development centers to address needed hands-on training facilities for specific skills.

**LEARNING TECHNOLOGY LABORATORY**




The laboratory should be staffed with instructional design experts to research, develop, and implement necessary software programs for both computer-based training and interactive video disc courseware programs. The laboratory should have a small permanent expert staff. Additional necessary expertise may be drawn from community colleges, state university and University of California systems, or from the private sector, to provide an on-going capacity to assure development of sufficient high quality training programs. Subject matter experts would be drawn from within the criminal justice system and law enforcement as needed to work with the POST laboratory staff on these programs. These programs may be developed in-house, or under contract with outside providers of courseware that is already developed and can be adapted to law enforcement.

Instructional designers are the architects of training. They can build high-quality, efficient, motivating courses. Proper instructional design can often reduce the length of a course by 25 percent and can put more measurement

factors into the training process. These measurement factors can systematically test how much knowledge and skill passes on to the student.

The laboratory would also be responsible for the continued development of satellite teleconference programs, and the delivery of additional satellite training tape broadcasts. It would also coordinate the various agency video production projects on a statewide basis.

**The ACR 58 Study Committee concludes that continued development of quality technology/training projects, and coordination of these projects at POST, will assure effective use of technology in law enforcement training.**

## THE FUTURE TRAINING SYSTEM

Specific aspects of technology have been focused upon by the ACR 58 Study Committee for integration into the law enforcement training system in California. The technology has been described in this report. Specific types of training facilities have been identified as being needed to accomplish proper realistic, hands-on training. These facilities have also been described in this report.

> ***"The real promise lies in 'first time right' -- designing the processes of instruction to ensure that all students are able to meet standards expected of them at each stage of the education process."***
>
> *Charles D. Winslow*
> *Andersen Consulting*

The challenge for law enforcement trainers and educators is to integrate the identified technologies and needed facilities into the future training system where appropriate for their use. This portion of the report includes information the ACR 58 Study Committee believes to be important in describing the future training system. However, what is needed in the future as to facilities and technology does not mean the current system of certified presenters, using a variety of facilities throughout the State, must be abandoned and a totally new system developed. On the contrary, the current training system needs to be improved by augmenting it with the proposed technology and facilities.

### THE LEARNING PROCESS

Learning is the process of beneficial change in an individual. This is accomplished through the systematic acquisition of new habits, attitudes, knowledge and experience which fulfills an important need to cope more effectively with the demands of life, work, and the environment. Promoting lasting change in an individual through education and training is a very difficult and challenging process. Typically, a training function attempts to accomplish change in a classroom using lecturing by an instructor and listening by the students. Lasting change through training can be more effective by using facilitating teaching styles and by structuring training and testing design so that students more fully participate and internalize information.

As indicated throughout this report, efforts must be made to enhance the learning process in all ways possible.

## TRAINING SYSTEM ADJUSTMENTS

Over the years, education and training have been delivered in the traditional school and university style, with instructors lecturing to a single classroom of students. The chalkboard and overhead projector are about the only training aids used on a regular basis. Classroom training is a highly effective delivery system when most of the students' needs and questions can be adequately predicted in the instructional design of the course. Classroom training will continue to be a vital component in the future training system; however, the classrooms of the future will contain technological enhancements, such as student response keypads to survey reactions, that provide great potential to facilitate the learning process.

Before any training is developed, decisions must be made how to best deliver the material to the trainees. There are a number of delivery approaches available to accomplish this task. These include traditional classroom teaching, with one instructor reaching a single class of students; delivery of a master teacher's presentation to multiple classrooms of students; and individual learning, through books, computer-based training materials, and other media at learning centers close to the trainee's work location.

Delivery system selection depends on the requirements imposed by the material. Courses that rely heavily on group dynamics and interaction may continue to be designed for classroom learning experiences. On the other hand, if the course demands the expertise of a master instructor, but group dynamics are not quite as important, satellite or video tape delivery can be ideal system of choice. When group dynamics are not required, and when the ability to proceed at one's own pace is required, individual learning may be the system of choice. Often, a curriculum may be delivered that employs many methods and technologies.

Developing and integrating skill development centers into the training system, as indicated in this report, is important. The current use of classroom training settings, and the future infusion of computer and other high-technology training, cannot replace the need for hands-on, skill development training. This report clearly describes these needs and indicates the various types of facilities needed to create realistic role-playing types of training. These skill facilities, along with traditional classrooms and advanced technology classrooms and studios, will comprise an integrated network of future training facilities.

Establishing regional training facilities, such as skill development centers, will require the cooperation of all the training and education institutions in a geographical area. Creative organizational arrangements for developing, financing and managing such facilities likely will be required. These arrangements will most likely involve joint powers agreements, interagency agreements, and contracts. Any creative arrangements should

also provide for the legal acceptance of financial assistance from private industry and foundations.

## THE ROLE OF THE INSTRUCTOR

Perhaps technology's foremost power is its potential to individualize instruction. Technology's implied strength is to shift focus from the teacher onto the student as a distinct individual.

When dealing with current popular instructional models, the focus is on the objectives, content, methods of presentation and assessment, and teaching activities are planned accordingly for small or large groups. The individual is merely a component of the group. In this model, the instructor occupies star billing on center stage as information-giver and data base.

> ***"What is striking, is technology (use) breaking down traditional barriers and opening up opportunities for students and teachers."***
>
> *Linda Roberts*
> *Congressional Office of Technology Assessment*

In contrast, when dealing with student-focused learning models, each student is at the center of his or her stage awaiting direction, observation, coaching, correction, practice, challenge, and stimulation on an individual basis. This is a new paradigm in which instructors devote more time to creating and managing a learning environment and thereby give students more responsibility for their own learning.

Technology can free the otherwise lecture-oriented instructor to become a coach, mentor, and a manager of the learning process. Instructors will be able to spend more time with trainees, one-on-one and in small groups. They will be able to influence development of more in-depth, subject-specific materials, and have more time to prepare creative instructional approaches.

It seems humanly impossible for one instructor to provide this kind of individual attention to each and every student, but technology is waiting to empower the instructor to do exactly that.

## SYSTEM CONSIDERATIONS

Law enforcement trainers need to develop the future training system in collaboration with education and training professionals. In developing the envisioned training system, the following issues need to be addressed:

- The fact that law enforcement is a 24-hour profession speaks in favor of making training available around the clock;
- Ways must be found to ensure that instructional quality is consistent even when many different instructors are used;
- Ways must be formulated to ensure that critical skills remain sharp, since knowledge and skills can fade with disuse;
- Instructional design expertise must be involved to accommodate use of technology;
- Instructors must be encouraged to use advanced technology to the advantage of those they are charged to teach;
- Officers must understand that they are responsible for mastering materials and new learning concepts and the will to enhance their learning and performance;
- Management must learn the value of technology so that they support it as a priority way of delivering training;
- Systems and courseware must be developed and production and distribution capabilities increased;
- Evaluation strategies must be developed to assure that students are learning and retaining material;
- Determine how more personal instruction can be encouraged when using technology; and
- Applications of training technology must be exempt from Office of Information Technology (OIT) regulations and oversight.

All of these issues will require considerable work on the part of trainers and educators throughout the system. POST can provide degree of leadership and coordination to address these issues, but the advancements will be implemented by individual trainers and educators dedicated to improving the training system.

**SYSTEMS APPROACH**

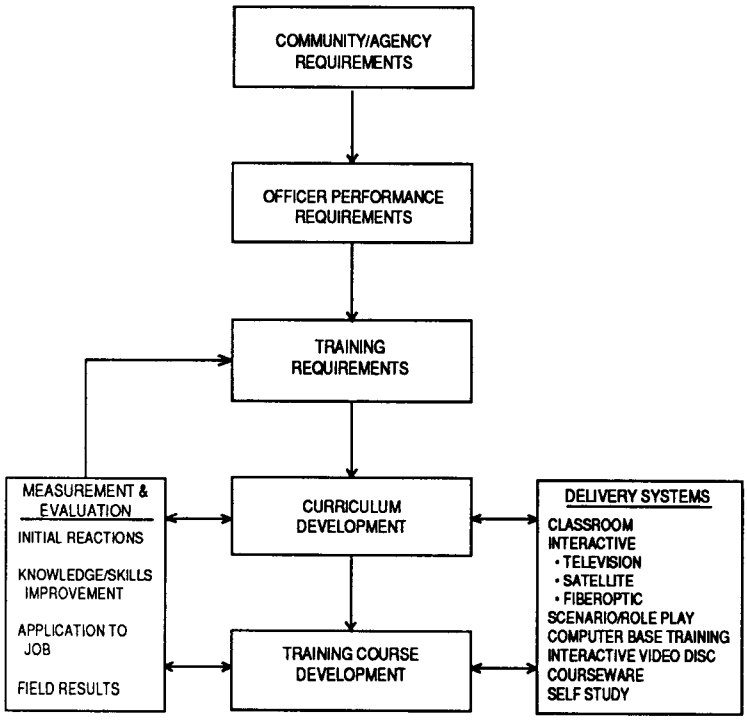
In the future, POST and training presenters must develop a more elaborate and coordinated training systems approach to the development of training. This systems approach must have components that are directly related to designing, implementing, and managing the training of peace officers. The key questions that a systems approach to training can answer are: how can training be made more effective, and how can training managers be assured

a return on the time devoted to training in terms of better officer performance?

The systems approach establishes training goals that match overall professional requirements. These goals must be translated into curricula for specific trainee areas based on performance requirements of the job.

Instructional design techniques must be used to ensure the most effective use of the student's time while training, to select the appropriate delivery system, and to measure how well trainees retain and apply what they have learned. The use of a systems approach to law enforcement training will provide a structured framework for identifying the training required for new or emerging areas of significance, eliminating redundant development effort, and justifying the resources needed for adequate training (see Appendix E, Training Effectiveness Model).

**SYSTEMS APPROACH TO LAW ENFORCEMENT TRAINING**




The systems approach must also establish the organizational relationships necessary to accomplish an integrated system. POST must work with colleges and agency trainers to cooperatively develop the necessary facilities

and programs. In some cases, joint powers agreements, or other cooperative arrangements, will be necessary to accomplish the tasks. Artificial barriers to development of the training system and training courses must be overcome. For example, at the State level, the Office of Information Technology (OIT) was established to coordinate the purchase and use of computers for word processing and data processing, not as training tools. OIT office computer procedures apply to all state agencies, regardless of their intended use, unless the agency is specifically exempted. These types of barriers need to be overcome so that quality hardware and courseware for training can be easily developed or purchased.

## EVALUATION STRATEGY

Management of the future training system must be guided by evaluation. Evaluation of training can take many different forms. However, all evaluation strategies can generally be classified into one of four broad categories:

- Those that focus on student (or observer) reactions to training;
- Those that focus on student learning;
- Those that focus on the impact of training on subsequent job performance; and
- Those that focus on costs relative to benefits.

Student reaction data is generally the least costly to collect and analyze, but such data also limited in that it provides information only about student (or observer) perceptions (e.g., concerning the job relevance of the training, the quality of instruction, and the use and appropriateness of different learning techniques and strategies.).

Evaluations of student learning are more complex and costly, necessitating the construction of reliable, standardized tests that are administered both before and after training, and the use of complex experimental designs to control for factors other than training that might explain differences in pre and post training test scores. Thus these types of evaluations are rarely performed.

Even more rare are well-designed studies to evaluate the impact of training on subsequent job performance, where it is very difficult to control for extraneous variables that might influence performance levels and thus confound the study results. Such studies are particularly difficult to conduct in law enforcement due to the complex nature of the work involved and the limited number of objective performance criteria.

Cost/benefit analyses are particularly useful for purposes of comparing alternative training methodologies, where the focus is on identifying the most cost-effective way of delivering training. In conducting such analyses care must be taken to account for all costs, and not just those associated with course/instructional development. The "benefit" side of the equation may be as simple as the total number of trainees who received training (to arrive at a per-trainee cost to deliver the training), or it may entail any of the types of evaluation criteria enumerated above (i.e., student reactions to training, student learning, changes in individual and/or organizational productivity).

More than one evaluation strategy is often used to assess a given training course or program, with the choice of strategies dependent on the underlying intent of the assessment and the availability of resources to conduct the assessment. Accordingly, while the future learning system will be characterized by the use of all evaluation strategies, the specific strategy(ies) used for any given assessment will vary. Whatever the choice of evaluation strategy, the assessment information will and must serve to guide subsequent instructional design and delivery efforts.

Likewise, the nature of training curricula and training delivery in the future learning system will be guided by systematic evaluation efforts to assess law enforcement training needs. Here also, while the specific nature of assessment strategies used in any given instance can and will vary, the strategies that will be used can generally be categorized as entailing either the collection of information regarding perceived training needs (e.g., as reported by officers, law enforcement administrators, and citizens), or the collection of more objective indicators of training needs (via knowledge/skills testing of law enforcement personnel, collection of objective field performance data at either the individual or organizational level.).

## COST RATIOS: BALANCING COURSE DEVELOPMENT COSTS AND COURSE PRESENTATION COSTS

Jack Bowsher, a retired Vice President of IBM Education, conducted an extensive two-year study of IBM and its education programs. Bowsher was often asked to name a percentage of operating expenses that a company should devote to training and education. Bowsher totally rejected that formula and said, "Education isn't like research. It is more a manufacturing cost. An organization should spend whatever it takes to do the job and nothing more or less."

During the Bowsher study, IBM concluded that by using more technology to deliver training, and instructional design techniques to streamline the training, the company might realize a reduction in costs of 65 percent. However, Bowsher cautioned that the cost savings must be put back into building new courses for the new delivery methods. IBM allocates an

annual education budget of 1.2 billion dollars. This represents approximately four percent of its total operating budget devoted to the education and training of its 390,000 employees.

Cost ratios are important considerations in any training program. Developmental costs are a one-time expense versus continual delivery costs. Historically, law enforcement tends to skimp on developmental costs and allow the delivery costs to become very high. By reversing this traditional practice and putting the necessary costs into the development of appropriate advanced technology systems, training quality can increase, and delivery costs can drop substantially.

The development, implementation, and maintenance of the future training system will be a major undertaking and require considerable imagination and resources. However, it will allow law enforcement training to establish a strategic direction to meet the demanding requirements of the 1990's and beyond.

## THE COMMITTEE'S VISION

The ACR 58 Study Committee envisions the following changes for development of a future training system:

1. Integration of a variety of advanced technology delivery systems and applications both in the academy settings and in-service training;

2. The development of facilities that will support the use of advanced technology applications;

3. Well-prepared instructors competent in the use of new technologies;

4. The use of advanced technology classrooms and studio classrooms to enhance the delivery of training programs and the learning process;

5. The use of satellite telecommunications systems that bring local, state, and world-wide programming directly into classrooms and departments equipped to receive the broadcasts;

6. The use of simulation and expert systems to facilitate the learning process;

7. A "systems approach" to the delivery of training and development of instructional material; and

8. The development of an effective training management evaluation system.

**The ACR 58 Study Committee concludes that law enforcement has the obligation, but currently lacks the resources, to optimize training capabilities by restructuring the training system to include technologies and facilities that will provide the ultimate state-of-the-art law enforcement future training system.**

# CONCLUSIONS

# AND

# RECOMMENDATIONS

## CONCLUSIONS AND RECOMMENDATIONS

Peace officers face an ever-changing and complex society. They also face a technological phenomenon -- a flood of necessary information and knowledge that never stops. To meet these challenges law enforcement trainers must find new ways of organizing and delivering instruction and new ways of designing and equipping the instructional setting.

Training is a combination of study, practice, coaching, and review. Books and manuals are the traditional storehouse of accumulated knowledge and expertise. Instructors normally lecture and test. Technology, however, is changing these traditional roles.

Advanced technologies, such as sophisticated computer-based training, interactive video disc programs, simulations, expert systems, and electronic classroom systems, are some of the tools that can help improve the learning processes. Knowledge can become better organized and more easily retrieved using advanced technology delivery systems. Knowledge can be arranged in a variety of learning modes, and provide a higher level of student involvement, retention, consistency, and satisfaction.

Technology applications and programs have the potential to provide high-quality training in less time, in a more cost-effective manner and with greater student satisfaction and learning retention rate. Advanced technology applications also have the ability to provide programs that have a greater degree of uniformity, consistency, and standardization in their program content. Technology also provides a vehicle for flexible scheduling of training programs, and individualized or independent delivery of training materials to the officers.

Technology can free the otherwise lecture-oriented instructor to become a coach, mentor, and a manager of the learning process. Instructors will be able to spend more time with officers, one-on-one and in small groups. They will be able to influence development of more in-depth, subject-specific materials and have more time to prepare creative instructional approaches.

Instructional technology and telecommunications hold great promise as tools in enhancing instructional opportunities for law enforcement training. The Commission on Peace Officer Standards and Training (POST) should acquire the additional expertise to enable the acceleration of on-going efforts to develop high-quality training courseware and provide the research and development support for application of emerging technologies.

Demonstration and pilot projects involving advanced technology should be developed and evaluated without delay. The Peace Officer Training Fund administered by POST can support a substantial amount of design work,

planning and training courseware development. The development and evaluation of these demonstration and pilot projects will help build an effective advanced technology delivery system; one that will enable much needed training to be effectively delivered directly to departments with a potential savings of time and travel costs.

Training in the future must be conducted at facilities designed for and dedicated to law enforcement training. Effective driver training simulators and shooting judgment simulations should be made as realistic as possible. Other specialized, dedicated facilities such as skill development centers, leadership development centers, and advanced technology classrooms, including broadcast studios and receiving classrooms, are needed to accomplish the goals of quality training. Coordination and planning efforts must be initiated promptly to bring about the design and development of needed facilities. Model designs need to be developed and efforts made to determine the most appropriate long-term funding mechanisms.

POST should be responsible for the development of a comprehensive plan for implementation of advanced training technology and programs and the needed facilities identified in this report. Development of such a plan will require widespread input and coordination and detailed examination of all issues including funding support.

The development and implementation of the visions in this report will likely require ten years to complete. However, during 1991 and into 1992, POST should acquire needed staff, develop the Learning Technology Laboratory described in this report, and begin to develop other demonstration and pilot projects. At the same time, the necessary research and study of the technology and facilities should be started to complete a comprehensive design, development, implementation, and long-term funding plan.

During 1991 and 1992, demonstration and pilot programs and projects should be on-line and evaluated. The facilities portion of the study should be completed, and the final report should be prepared and delivered to the Legislature with appropriate recommendations.

While the initial research, design work, and demonstration projects can proceed within current revenues available for appropriation to POST, it is apparent that major funding will be needed in the future to accomplish the long-term projects and facilities development. The Legislature can appreciate that needed special training facilities outlined in the ACR 58 Study Committee could cost in the area of several hundreds of millions of dollars. The purpose of the proposed two-year study is to set forth specific program and facility needs along with detailed cost estimates. Decisions on this type of capital funding can appropriately be deferred until after the specific study is submitted before the end of 1993. Meanwhile, the Committee urges the Legislature to encourage development of the

technology recommendation within monies currently available for appropriation to POST.

This report describes technology and facilities that can enhance law enforcement training. But the realities are that proper action must be put in motion and obstacles to success must be overcome. A bill indicating Legislative support for improvements in law enforcement training is needed to place proper emphasis on the criticality of having appropriately trained and competent law enforcement personnel serving our citizens.

In proposing legislation, the ACR 58 Study Committee also realizes that some additional staffing is needed by POST to employ the expertise to develop the necessary plans and demonstration projects. The committee is also aware that POST acquisition of necessary technology to support the envisioned training programs could be construed as falling within state procurement requirements administered by the State Office of Information Technology (OIT). To best assure prompt acquisition of the described technology, the committee finds that it is important to provide clear exemption from these requirements for POST's development of technology-based training programs.

Express authority for POST to enter into joint powers agreements is also viewed as necessary to forge the relationships needed to develop technology applications and courseware programs.

The future of training and learning is not predetermined, but will result from what law enforcement administrators, trainers, the Legislature, the Governor and others charged with these responsibilities decide to do. Each has a crucial role in the future direction of training technology and needed facilities for learning. Responsible parties must work together to assure the necessary progress to meet the training needs facing law enforcement and to maximize the opportunities of the 1990's to make the vision of this report a reality.

**RECOMMENDATIONS**

The ACR 58 Study Committee believes that the Legislature should review and accept the findings of this report, and provide the Commission on POST with a Legislative mandate to develop a detailed plan for implementation. The ACR 58 Study Committee recommends to the Legislature that a law should be enacted:

1. Declaring a statement of legislative intent to integrate advanced technology into law enforcement training programs and to seek establishment of needed training facilities described in this report.

2. Directing the Commission on POST to establish and staff an organizational unit to provide learning technology and systems development expertise as described in this report.

3. Directing the Commission on POST to begin now with prototypes and demonstration projects consistent with resources available to the Peace Officer Training Fund by appropriating to POST monies available in that fund.

4. Directing the Commission on POST to develop a law enforcement training facilities needs assessment and long-term funding plan and report to the Legislature prior to conclusion of Calendar Year 1993.

5. Exempting the Commission on POST from the provisions of Government Code 11700, et seq., relating to the Office of Information Technology oversight for computer acquisition as it pertains to training applications.

6. Providing the Commission on POST with express authority to use Joint Powers Agreements with other governmental agencies and to commend the use of innovative and entrepreneurial approaches for the purposes of developing and providing law enforcement training programs as appropriate.

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## Assembly Concurrent Resolution No. 58

# RESOLUTION CHAPTER 166

Assembly Concurrent Resolution No. 58—Relative to law enforcement training.

[Filed with Secretary of State September 21, 1989.]

LEGISLATIVE COUNSEL'S DIGEST

ACR 58, Campbell. Law enforcement training.

This measure would request the Commission on Peace Officer Standards and Training in cooperation with the Legislative Analyst to establish a committee composed of specified members to study the use of advanced technology for law enforcement training, as specified. The committee would be directed to report its findings and recommendations to the Legislature, as specified, no later than January 15, 1991.

WHEREAS, It is the responsibility of the state and the Commission on Peace Officer Standards and Training to provide local law enforcement officers with appropriate training throughout California; and

WHEREAS, Law enforcement officers should be trained to the highest level that the profession requires; and

WHEREAS, Law enforcement training must become more productive; and

WHEREAS, Emerging technology now makes these training deficiencies addressable; and

WHEREAS, There is a shortage of adequate training equipment and facilities to meet the training needs of California law enforcement, generally; and

WHEREAS, It is in the interest of the people of the state to have law enforcement officers trained by using the most effective techniques, equipment, and facilities, so as to conserve training time, to improve decisionmaking abilities, and to assure maximum training effectiveness; and

WHEREAS, The present statewide law enforcement training system is unable to provide the most current techniques, equipment, and facilities due to financial and logistical limitations; and

WHEREAS, It would be in the best interest of the state to study and seek cost-effective alternatives to current law enforcement training; now, therefore, be it

*Resolved by the Assembly of the State of California, the Senate thereof concurring,* That the Commission on Peace Officer Standards and Training in cooperation with the Legislative Analyst is hereby requested to establish a committee composed of one member selected by each of the following: the Commission on Peace Officer Standards and Training; the Governor; the Attorney General; the California Peace Officers' Association; the Peace Officers Research Association of California; the Chancellor of the California Community Colleges; the Senate Committee on Rules; and the Speaker of the Assembly, to study the use of advanced technology for law enforcement training, and be it further

*Resolved,* That the Commission on Peace Officer Standards and Training is requested to provide the staff and facilities needed to conduct the study, and that the study be conducted under the direction of a staff member appointed by the commission; and be it further

*Resolved,* That the committee so established shall be directed to report its findings and recommendations to the Chair of the Senate Judiciary Committee and the Chair of the Assembly Public Safety Committee not later than January 15, 1991.

## ACR 58 STUDY COMMITTEE

## ADVANCED TECHNOLOGY GLOSSARY

**Computer** - A piece of electronic equipment capable of processing and storing large quantities of information. Basic computer components are input, output and storage devices.

### INPUT DEVICES

**Keyboard** - A device connected to the computer used for entering data/instructions into the computer.

**Light pen** - A device that is pressed against a cathode-ray tube (CRT) to indicate an answer or response located on the screen display.

**Mouse** - A small rolling box device that fits in the palm of the hand. It is used to execute computer functions on a personal computer and may be used instead of the keyboard.

**Touch screen** - A cover layer for the screen that permits the learner to indicate choices by touching a location on the screen.

### OUTPUT DEVICES

**Monitor (Video Display Unit)** - Part of the learning station that displays information on the CRT screen.

**Printer** - A device that collects data from the computer and prints it on the paper.

### STORAGE DEVICES

**Floppy Disk (Diskette)** - A small magnetic media disc used for microcomputer storage; limited to the amount of information that it can hold.

**Hard Disk** - This device holds the most information and is the fastest of all mass storage devices; it can be expensive depending on storage capacity requirements.

**Tape Drives** - This device is used to store information usually stored in the hard disk for back-up purposes.

## TYPES OF MEMORY

**RAM (Random Access Memory)** - The part of the computer memory that can be used for running programs.

**ROM (Read Only Memory)** - The part of the computer memory that holds information about the computer itself. This portion of memory can not be changed by application programs.

## TYPES OF COMPUTERS

**Mainframe** - Large and powerful computer systems with vast storage capability. Mainframe systems can accommodate several hundred geographically dispersed learners simultaneously studying different material.

**Minicomputer** - Originally created as a smaller alternative to the mainframe. Minis may accommodate 20-100 trainees.

**Microcomputer** - An independent or "stand-alone" computer system used by one person.

## COMPUTER SYSTEMS

**Dedicated Network** - Many terminals are connected by cable and telephone lines to a central mainframe computer that is used only for instruction. The system is then dedicated to that single purpose.

**Shared Network** - The mainframe central processor performs other tasks besides instruction and course-related administrative functions.

**LAN (Local Area Network)** - Many processor units are linked together in a network to allow them to "talk" and work together.

**Stand-Alone** - The system functions independently, using a microprocessor unit.

## ADDITIONAL BASIC TERMINOLOGY

**Application Program** - Category of software which includes the instructions to a computer that solve a particular problem. Such problems are referred to as computer applications.

**Authoring Language** - A computer language used specifically for creating educational courseware.

**Authoring Aid (Utility)** - Special type of program which facilitates the programming of courseware by enabling a content expert to interact with the computer and have the coding performed automatically. Does not require programming knowledge or skill.

**Auxiliary Device** - A device connected to a computer-based training system (CBT) and controlled by it. Examples include: audio, video, video-disc, compact disc.

**Bit** - Smallest quantity of data. Bit, which is a contraction of binary digit, refers to a number which is represented either by a 0 or a 1. All the memory locations in a computer are identified by a binary number address.

**Branching** - In computer-based training, directing the learner to one, two or more paths through other material on the basis of replies to questions.

**Byte** - Also known as a character in a group of 8 bits used to define an alphanumeric character. Computer memory and mass storage are measured in terms of bytes. The symbols K and M are used, respectively, to designate thousands and millions of bytes.

**Computer Application** - Human endeavor which is susceptible to being automated by the use of computer technology. Also any technique for applying computer technology to the solution of a variety of information processing problems.

**Computer Language** - Category of software which includes collections of instructions used in programming. One of over 100 languages used to program computers. Computer languages are of two general types; assembly languages or high-level languages.

**Courseware** - Term used to describe those computer application programs, as well as other media such as texts, graphics and video, which support educational objectives. Computer courseware is a special form of "software", a term reserved in this field for the programs that simply make the computer "run".

**DOS (Disk Operating System)** - The industry standard software that makes the system behave properly and usefully.

**Input** - Short-hand way of referring to any information, analog or digital, which is presented to the computer for subsequent processing.

**K** - Abbreviation for Kilo or thousand (actually 1,024 or 2 to the 10th power). Used in the designation of the size of memory and mass storage.

**Language** - The language that computer programmers use to give instructions to the computer on how to operate.

* **Natural** - commonly used by people in communicating with each other; its rules and vocabulary evolve over a period of time.

* **Artificial** - created for a particular purpose with usage governed by rules that are established with its creation.

* **Conceptual** - either natural or artificial langauge with facilities for expressing concepts and interrelationships in some field i.e. medicine or science

* **Programming** - artificial language designed for use by people in instructing machine how to operate.

* **Source** - language in which programs are written to control operation of the computer system.

**High Level Source Language** - Language that is designed for ease of use in writing programs and is intended to be used to program computers of different manufacturers and types. When using high level language, a whole sequence of computer operations can be specified by writing one simple instruction.

**Low Level Source Language** - Language which is referred to as assembly language; requires the program to tell the computer quite explicitly what is to be done at each step with, typically, a separate instruction required for each step that it to be performed.

**Modem** - A contraction of modulator and demodulator. A device which allows a computer to transmit and receive data over a telephone line.

**MHZ (MHz; MegaHertZ)** - a frequency of one million cycles per second.

**Network** - Collection of computers, communication links, and telephone lines which make it possible for a user to communicate with one or more remote computers without having to pay long distance telephone charges.

**Output** - Short-hand way of referring to any information, presented on a CRT or in hard-copy, which is the result of the computer following a set of instructions or an application program.

**Resolution** - The degree with which detail can be displayed on a CRT. It is measured in dots (pixel elements) vertically and horizontally. High resolution is necessary to display graphics. Low resolution is adequate for text.

**CGA (Color graphic array)** - Allows for the computer generated color graphics to be displayed on the CRT.

**EGA (Enhanced graphic array)** - Allows for higher resolution graphics to be generated on CRT (380 x 348).

**VGA (Video graphic array)** - Allows higher resolution graphics to be displayed on CRT (640 x 480).

**SVGA (Super video graphic array)** - Highest resolution graphics available (1024 x 680).

## INTERACTIVE VIDEO TERMS

### LEVELS OF INTERACTIVITY

**Level One** - Essentially a playback system, level one components consist of a consumer video-disc player, a disc, monitor and input device directly connected to the video unit.

**Level Two** - Faster than level one, the level two system consists of an industrial player with a built-in microcompressor capable of some memory storage (about 1,000 bytes), a simple computer program and branching capabilities for programmed instruction.

**Level Three** - In this system, a video player and micro-computer are linked together providing text, graphics, tests, images, and responses on the display screen.

## MISCELLANEOUS

**CD-ROM (Compact Disc - Read Only Memory)** - An ordinary CD but filled with data instead of music. It incorporates a logical file structure to facilitate locating data, plus an extra layer of error detection/correction.

**CD-I (Compact Disc Interactive)** - Extends the CD-ROM format to include graphics and video.

**DVI (Digital Video Interactive)** - A new technology which allows the playback of full motion video in real time on a CD.

**CD-ROM/XA (Compact Disc - Read Only Memory Extended Architecture)** - This provides graphics and video capability; although it cannot produce full motion video like DVI, it does provide for several different levels of audio quality.

## ARTIFICIAL INTELLIGENCE

### EXPERT SYSTEMS

**Artificial Intelligence** - A system with the capability of a **medium to learn** (to remember what results was produced on a previous trial and to modify the operation accordingly in a subsequent trial) **or to reason** (to analyze the results produced in similar operations and select the most favorable).

* Natural Language Processing; read, speak or understand everyday language.
* Robotics
* Expert Systems; emulate behavior of human experts.

**Expert System** - A system which utilizes a consultation paradigm, exhibits problem solving behavior and is characterized primarily by a diagnosis/prescription mode.

* Knowledge base; predicated on information from experts or from the literature.

* Inference engine; strategies used to draw inferences and control the reasoning process.

## COMPUTER SOFTWARE GENERATIONS

**One** - Machine language
**Two** - Assembler language
**Three** - Higher level language
**Four** - Conventional application development
**Five** - Artificial intelligence (Expert systems)

**Conventional procedural language** - You tell the computer how to solve the problem.

**Rule-based Programming** - gives computer the ability to resolve a problem with no step-by-step method to arrive at a conclusion; it refers to internal rules and relationships, and compares them with outside data to resolve problems.

**PROLOG (Programming in Logic)** - New 5th generation programming of computers currently in use in Japan and Europe to deal with programming expert systems.

**COBOL (COmmon Business-Oriented Language)** - a high level programming language widely used in industry and commerce.

**FORTRAN (FORmula TRANslation)** - a high level programming language designed for scientific and mathematical applications.

# ACR 58 STUDY COMMITTEE
# FIELD SURVEY QUESTIONNAIRE
# PRELIMINARY RESULTS

During March 1990, POST sent a survey questionnaire to each agency department head participating in the POST program.

The survey instrument was designed to gather opinions on assumptions and principles related to the development and use of advanced technology applications and facilities in law enforcement training.

Of the 558 agencies surveyed, 392 responded promptly to the survey; a favorable 70.2% return rate. The responses will be used to help set the agenda for the San Diego law enforcement symposium, as well as in the ACR Committee's report to the Legislature.

The preliminary results are as follows:

Issue #1: Principles and Assumptions

Assumption: It is important for law enforcement, training presenters, and POST to adopt improved training methods, facilities, technologies, and systems to address skill and knowledge demands of the profession in the 1990's.

| Agree: 97.4% | Disagree: .5% | Not Enough Info: 2.1% |
|---|---|---|

Issue #2: Use of Technology

Assumption: Interactive computer based training technologies should be developed for use in departments and training institutions.

| Agree: 84.% | Disagree: 1.8% | Not Enough Info: 14.2% |
|---|---|---|

Issue #3: Facilities

Assumption: Specially designed and dedicated training facilities are needed and should be provided for: 1) emergency vehicle training; 2) use of force and weaponry training; 3) tactical scenario training; 4) investigation training (among others).

| Agree: 90.7% | Disagree: 1.5% | Not Enough Info: 7.7% |
|---|---|---|

The responses included many suggestions and comments on direction, technology, facilities and funding sources. These are being summarized and will be very helpful in identifying areas for further discussion and clarification both for the ACR 58 Study Committee and at the Symposium.

# DIRECTIONS FOR LAW ENFORCEMENT TRAINING IN THE 1990'S

Law enforcement training issues for the 1990's center on whether training can be made to more closely approach the demands of the job. To do this, the partnership of departments, trainers, and POST will need to work to build more technology, facilities, and convenience into the training system.

Private industry and the military report remarkable improvements in learning times and retention using computer based, video interactive technology. On site learning centers reduce travel requirements. Satellite transmission of live interactive courses can bring high quality training directly into the department. Computer simulations of critical incidents can sharpen judgment skills.

Most law enforcement training facilities are not adequate for the optimum development of peace officer skills. For example, course presenters need access to special training facilities dedicated to:

1. tactical exercises;
2. emergency vehicle driving;
3. judgment in uses of force and firearms;
4. "stage set" scenario rooms for training investigators; and
5. tactical and strategic decision making exercises.

Currently, there is no consensus or standard on the use of technology. There is no accepted common standard to guide the design and construction of facilities that are needed statewide. Unless we come to terms with key issues that confront us, law enforcement will not take maximum advantage of what the future could be like.

The ACR 58 Committee and the POST Commission need to know your feelings concerning training in the 1990's. At issue are: 1) the underlying principles and assumptions; 2) the use of technology; 3) the need for facilities; and 4) funding alternatives.

The attached questionnaire is designed to gather needed information. In July, the Commission will sponsor a symposium where the possibilities will be further refined. A final report to the Legislature will be completed by the end of 1990.

## CURRENT SKILL TRAINING ACTIVITIES

This appendix details several areas of law enforcement skill development of which there are known methods, techniques or technologies to provide improved training over what is currently available on a statewide basis.

### CURRENT WEAPONS SKILLS TRAINING

There is a great diversity of weapons proficiency training provided throughout the state. All agencies provide the basic marksmanship skill development. This is generally conducted through classroom theory and skill awareness, followed by practical application on shooting ranges. The shooting ranges utilize fixed "bull's eye" or silhouette targets. This training allows a trainee to develop the proper techniques for accurately shooting and reloading his or her service weapon. It also permits experienced officers to maintain proficiency with their weapons.

This type of training only relates to marksmanship, and does not provide tactical and judgmental training or experience for critical, stress-inducing situations. Realizing this, several trainers have developed innovations in training to fill this void. Some of these training techniques have proven to better prepare officers for the types of incidents involving weapons use which they will actually be confronted with on their jobs. Some of these training techniques for weapons skill development are:

1. "Laser Village"

   One example of an innovative technique in training for judgmental use of weapons and tactics in the "laser Village" concept. This training technique uses mock buildings and laser-equipped weapons which display "hit" targets on laser-detecting vests worn by the officers, "acting" criminals and "innocent" bystanders. In this training, officers are dispatched on a specific call to one of the laser village's businesses (e.g. bank, liquor store, cocktail lounge, gas station, fast food restaurant, gun shop, doctor's office) or a family residence. All buildings are detailed inside and out to appear realistic. At the scene, the officers are confronted by potentially hazardous situations, usually involving a suspect with a weapon. Depending on the officer's tactical handling of the situation from the moment of arrival, each scenario could terminate in several conclusions ranging from a non-combative arrest to either the officer, criminal or an innocent bystander being shot. According to officers that have participated in this experience, it is so realistic that they forget it is only a training exercise. They also expressed the value of this training as it relates to actual job situations, allowing

them to evaluate their own psychological, physical and tactical readiness for such confrontations.

Laser Village is reputed to be excellent preparatory training for actual field encounters. There are currently three laser village type operations in California. They are run by the Los Angeles, Orange and San Diego County Sheriff's Departments. The laser village scenario training is used in conjunction with Shoot/No-Shoot simulators, and as part of a total force and weapons usage program. However, these 3 training areas can only train about 8,000 officers annually at maximum use. Outside agencies have been allowed use of the laser villages as scheduling permits by the host agencies that present this POST-certified training program.

2. "Hogan's Alley"

Another technique for providing an officer with simulated confrontational experiences to develop proper judgement is a "Hogan's Alley" facility. In this training experience, officers are directed down a city street lined with building fronts. Picture objects of either an innocent citizen, or a suspect threatening the officer with a weapon appear in the windows, doorways and other portions of the facades. Only three such facilities currently exist in the State. Some trainers use similar targets which pop up and turn with either "good" or "bad" guys appearing on them. They are not presented in realistic environments, but are in fixed range-type settings.

3. Combat Courses

More commonly available throughout the State are weapons combat courses. These are generally conducted during daylight and darkness hours on ranges, using a timed course during which the officers must fire, reload and fire again at several fixed targets from two or three different distances. Some facilities often use fixed barricades for cover and optional shooting techniques.

These combat courses provide greater experience for job-related marksmanship, weapons handling and reloading techniques than the fixed position "target" range courses. However, combat courses are not available statewide to all law enforcement personnel.

4. Shoot/No-Shoot Simulators

There are three commercially available shoot/no-shoot simulator training devices which are designed for law enforcement use. Many California agencies have considered the purchase off the devices, or have actually purchased one of the systems from the private vendors. These simulators

offer projected film scenarios (about life-size) presenting simulated potentially hazardous shoot/no-shoot situations. A computer tracks decision time lapses, accuracy of the shots fired, and the relevance of decision to shoot or not to shoot, and displays those results at the end of each scenario. A printed record of the training session is also available.

The systems provide valuable visual and interactive experiences of typical high risk calls and situations that may be encountered by officers in the field. Firearms and tactical trainers strongly recommend their frequent use by both recruits and experienced officers to maintain their skill level.

Two of the three commercial systems available have scene branching capabilities. This type of technology will allow the scenario to branch to appropriate consequences consistent with the officer's actions. For example, if the officer shoots and misses the suspect but hits an innocent bystander, the bystander will fall, and the suspect might either shoot back or flee. This simulator system will also record decision times, firing accuracy and judgmental factors, and allow a more relevant training and experience for properly judging hazardous situations with objective evaluations of a trainee's proficiency and decision-making abilities.

One such simulator system can provide training for about 4,000 officers annually, with each officer being evaluated on a mixture of three scenarios. A limited number of these simulator systems are currently scattered around the State in either police agencies or training facilities, and are being used as part of a total force and weapons usage training program.

5. Role-Playing Training

A commonly used technique for providing training and experience of judgmental factors and reaction times in potentially hazardous incidents is the role-playing method. In this approach, officers - usually recruits - are told that they are responding to a particular type of call. Once there, role players - usually instructors, other recruits or volunteers - act out the role of either a citizen or a criminal suspect. The officer must respond appropriately to the situation, occasionally involving the decision to use deadly force.

Trainers offering this technique generally use public or college buildings, or nearby closed business facilities. All participants use either blank rounds in prop weapons, or no rounds at all. This training is effective for the student and the instructors in evaluating a student's

reactions to realistic stressful situations. One problem with this type of training is that it is very labor intensive because it requires many instructors, evaluators and role-players to properly conduct this training. It also lacks consistency due to the varied acting talents and control of the role players and evaluators.

CURRENT DRIVER SKILLS TRAINING

In California, one issue receiving high priority attention is the number of police vehicle collisions that occur annually, and the number of officers and civilians that are killed or injured in these police vehicle collisions. Current driver training methods provide basic skills for routine and emergency conditions. However, because of safety factors, these training methods cannot provide realistic experiences of emergency or pursuit driving, collision avoidance or other emergency driving situations. They cannot test an individual's responses to stressful driving on crowded city streets, freeways or urban environments.

The same void exists regarding driver training as it does to a limited extent in weapons training: training must be provided beyond the basic skills orientation to include realistic, job-related experiences for application, development and refinement of these skills during exposure to potentially hazardous and deadly situations.

POST has established minimum training standards and has been quite progressive in the area of driver training. The current minimum criteria for driver training are provided in the Basic Course. Presenters of basic driver training courses adhere to this minimum guide which provides standardization with these minimum standards. Based on these minimum standards for driver training, the twenty-three presenters of driver training provide basically the same course of instruction. A typical basic driver training course includes the following:

Lectures covering:

Defensive driving techniques
Liability Issues
Driver Responsibilities
Driving Techniques
Vehicle Dynamics
Vehicle Operations
Characteristics of Emergency Driving

Behind-the-Wheel Practical Training covering:

Forward steering exercises
Reverse driving exercises
Slow skills Course (parking, braking, turn-arounds)
Moderate-to-High Speed Skills Course
Pursuit Driving Exercises

Skid Pan Exercises
Skid Recovery Exercises

The average Basic Driver Training Course is twenty-four hours. The exact methodology varies between presenters; however, they all cover the minimum content by addressing performance objectives.

Current In-Service Driver Training Courses

In-Service or Advanced Driver Training is available but not mandated, nor is the tuition reimbursed by POST because of resource limitations. Consequently, the volume of in-service driver training is very small throughout the State. Five training facilities and 12 agencies provide some type of in-service Driver Training Courses. Together they provide about 1650 officers with up-dated training annually. The 1650 personnel receiving in-service driver training are only 4.1% of the estimated 40,000 field-assigned officers throughout the State who should be receiving some periodic skills refresher training.

To assist in providing refresher driver training, POST developed the Driver Awareness Program in 1986. It is designed to offer awareness of liability issues, defensive driving techniques and exposure to very basic slow-speed driving skills. It is designed to be presented by the local agencies using field supervisors (Sergeants) as course instructors. Even this improvement, which is a major step in the right direction, falls short of the true need for periodic driver training that is realistic and relevant to actual driving conditions.

Current Driver Training Facilities

A variety of sites are utilized for driver training courses by the 34 California Basic Academies. Due to the fact that most driver training sites are on borrowed or rented property, and used only part of the time, many negative impacts result. Most driving courses are outlined by plastic cones, usually designed to fit within the confines of the available facility terrain rather than to the design of the ideal training course. Courses are also restricted to temporary, portable equipment because permanent course aids are prohibited by the site host.

The most ideal training site within the State of California is the California Highway Patrol's facility because the course is constructed to fit training needs without fear of being removed from the site. All other training facilities must yield to the facility host activities, and operate in anticipation of being suddenly removed from their training sites.

SPECIAL INVESTIGATIVE AND TACTICAL SKILLS TRAINING

Because of an awareness that officers involved in specialized activities need more than just classroom training on tactics and

skills, a few agencies and colleges developed new programs around the State to properly prepare personnel for handling critical situations. Specialized skill development training programs have emerged for practical exercises of incidents involving hostages, barricaded suspects and other critical situations requiring special tactical and equipment use.

Unfortunately, these training programs are not generally available to all law enforcement agencies. Most officers still get only the classroom training without the experience of practical applications until confronted with an actual incident. Current training includes a few courses in the following:

Special Weapons and Tactics Training (SWAT)

Nine training institutions and the FBI present POST-certified special weapons and tactics training courses. Few provide role-playing exercises because of lack of appropriate facilities. Those which do incorporate practical application exercises into their training use military bases or other borrowed government sites. Some agencies have developed specific sites committed to this type of training exclusively.

Drug Trafficking Enforcement Training

Drug trafficking activities, manufacturing techniques, transportation arrangements and communications equipment have required officers to learn new procedures and be experienced and confident in their applications prior to confrontations with drug traffickers.

Currently most trainers do not provide role-playing exercises of these newly required enforcement applications. Some agencies use borrowed facilities for role-playing exercises; however they are not ideal relative to the realistic experience of drug investigators. Most enforcement techniques are learned during actual transactions with drug traffickers.

Vice Investigation Practical Training

Vice activities, such as gambling, prostitution, pornography and "con games", often involve specialized equipment and facilities. Similar to recent techniques used by drug traffickers, people involved in various vice activities have begun to employ sophisticated communications and security measures to complicate law enforcement's traditional procedures. Again, enforcement personnel currently learn to cope with these complications through field experiences which often result in injuries or lack of prosecution.

Vice investigation training has traditionally been learned through classroom instruction combined with on-the-job

training with experienced investigators. However, with the criminal's advancements in sophistication, law enforcement interaction with them must be planned, rehearsed, and well executed to result in higher arrest and conviction rates, and safety factors involved with these types of high-risk situations. Current courses usually must restrict their role-playing activities to those which can be performed on city streets without endangering residents.

Explosive Device Investigations and Disposal Training

Use of explosive devices involving criminal and terrorist activities has steadily increased during the last two decades. Law enforcement has responded by training experts is disposal techniques. Most of these experts receive their training from the Redstone Arsenal in Kentucky or from the FBI offices in San Francisco and Los Angeles. Only the Redstone Arsenal provides practical applications of explosive-type devices.

Hazardous Materials Investigation

Another recent problem of public safety involving law enforcement responsibility is the increase in exposures of hazardous materials on the highways and in the communities. Most current training is classroom-oriented, with limited practical experience until encounter with the actual hazardous scene incident.

POST has seven courses certified to present hazardous materials training. Two presenters are at community college facilities, and one at the California Specialized Training Institute in San Luis Obispo. Two police agencies also present specialized courses.

Criminal Investigation Skills Development

Many criminal investigation training techniques need to supplement classroom training with practical hands-on exercises to develop experience and expertise. These types of practical skills programs must be prepared to simulate the reality of the criminal investigation. Without a permanent facility, it is impossible to splatter "bloodstains" around a rented hotel room, or allow the criminal investigator to spread fingerprint dusting powder about a house borrowed for the practical simulation.

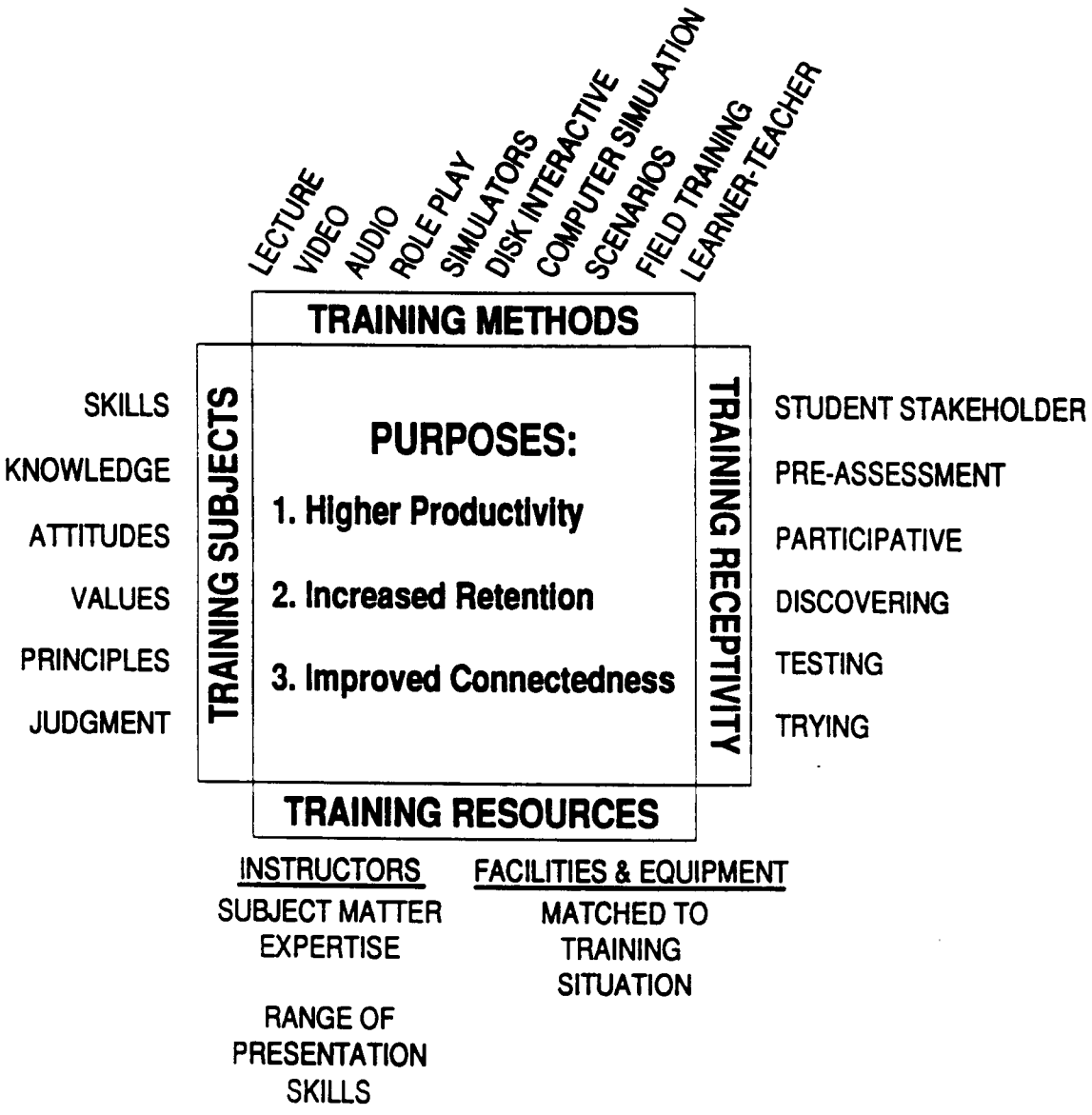
There are very few presenters who have the facilities that would allow a permanent crime scene or a scene set up to investigate an arson, where an accelerant has been splashed around the room to start the fire. Practical skill sites are always subject to the host agency needs, and they are used in other training applications which preclude the use of a permanent facility for these types of investigations.

## SUPERVISORY AND MANAGEMENT STRATEGIC RESPONSE TRAINING

Supervisors and managers are often the focal points for the successful handling of major incidents. From the coordination of robbery followups, barricade suspects, hostage incidents, traffic accident and pursuits, to the complex involvement of multiple agencies in earthquakes, floods, fires and other disasters, the field supervisors and incident commanders are critical elements to the effectiveness and efficiency of the response.

Many supervisors and managers attend training which provides classroom instruction on techniques to properly handle such major incidents. However, as with the other special skills training mentioned in this report, most of them can only refine their knowledge and skills and gain confidence through involvement in actual incidents on the job. Again, this is not the ideal learning environment. It jeopardizes the safety of officers and citizens and limits the overall effective and efficient use of resources. Some agencies include supervisors in role-playing exercises of such incidents during advanced training courses. However, there are very few courses available to provide the necessary level of training statewide to all supervisors and managers.

# Training Effectiveness Model

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# TRAINING EFFECTIVENESS MODEL

In the early 1980's POST viewed the law enforcement training system in California as a resource management system. By the mid 1980's, it became very clear that it was not enough to simply "manage" the training system. Instead, training needed to improve across the board. All parts of the system, POST, departments, trainers, officers, etc., would need to participate and accept the concept for any chance of success.

The Commission needed a model to help identify and illustrate the key points for improvement efforts and to provide a framework for its improvement strategies.

The results was the training effectiveness model. This model simply juxtaposes the four key factors in training situations: subject, method, receptivity and resources. Decisions on improving training effectiveness are made taking consideration of these factors into account.

## TRAINING SUBJECT: SKILLS, KNOWLEDGE, ATTITUDES, BEHAVIORS, PRINCIPLES, VALUES

The principle here is that we need to constantly sharpen our focus on what is specifically to be taught. Instructors need to separate skills from knowledge training. They need to assure that students have discovered the governing principles which can be followed with safety when recall of a particular detail of training does not come immediately to mind. Subject matter should assure that attitudes and values are in alignment, reinforcing appropriate personal and professional behavior.

## TRAINING METHODS

Once a clear understanding of the training subject is in mind, selecting the most effective methods is the next step. There is an entire spectrum of training methods to choose from. The spectrum POST uses is represented by the degree of responsiveness required by the student.

Readings and lecture are at one end of the spectrum. These require virtually no response by the student. Learner-teacher and scenario role playing are towards the other end. These techniques demand high student involvement.

In between are such methods as role playing, case studies, computer interactive video disc courseware, simulators, simulations, field training, mentoring, and computer based learning among other techniques.

The challenge is to match the best methods with the topics at hand. Most of these training methods are available for use, or are in use, today.

## TRAINING RECEPTIVITY

Learning styles may vary, but generally, adults are more receptive to training when they are actively involved in the learning process, when there is immediate feedback and when complex ideas are simplified.

People will be more receptive if the training requires responses from them. Training that meets these criteria will generate high credibility from the trainees. Trainers need to consider the student stake factor when designing training. Training methods, equipment, location, etc., also carry an "importance" message, as does an instructional design which allows participation, feedback, trying, and testing.

## TRAINING RESOURCES

The fourth side of the training effectiveness model is the training resources. These are split into two parts: (1) Instructors (2) Facilities and Equipment.

Many instructor development courses have been presented to assist instructors with their courses and to improve instructors' teaching skills. Both of these areas are of crucial concern to the effectiveness of any course presentation. Train-the-trainer seminars have been held to teach newly developed course curriculum to instructors. These courses provided instructors with comprehensive expanded course outlines, handout materials, audio-visual resources, overhead transparencies, and the most effective methods of instruction for teaching the new programs.

Efforts to increase the training resources effectiveness have been through continuing instructor development programs. POST has developed a Master Trainer Course, which will provide in-depth training in subject, methods, facilities, and learning processes.

Facilities are very important to the overall learning process. A more in-depth look at facilities appears later in this report.